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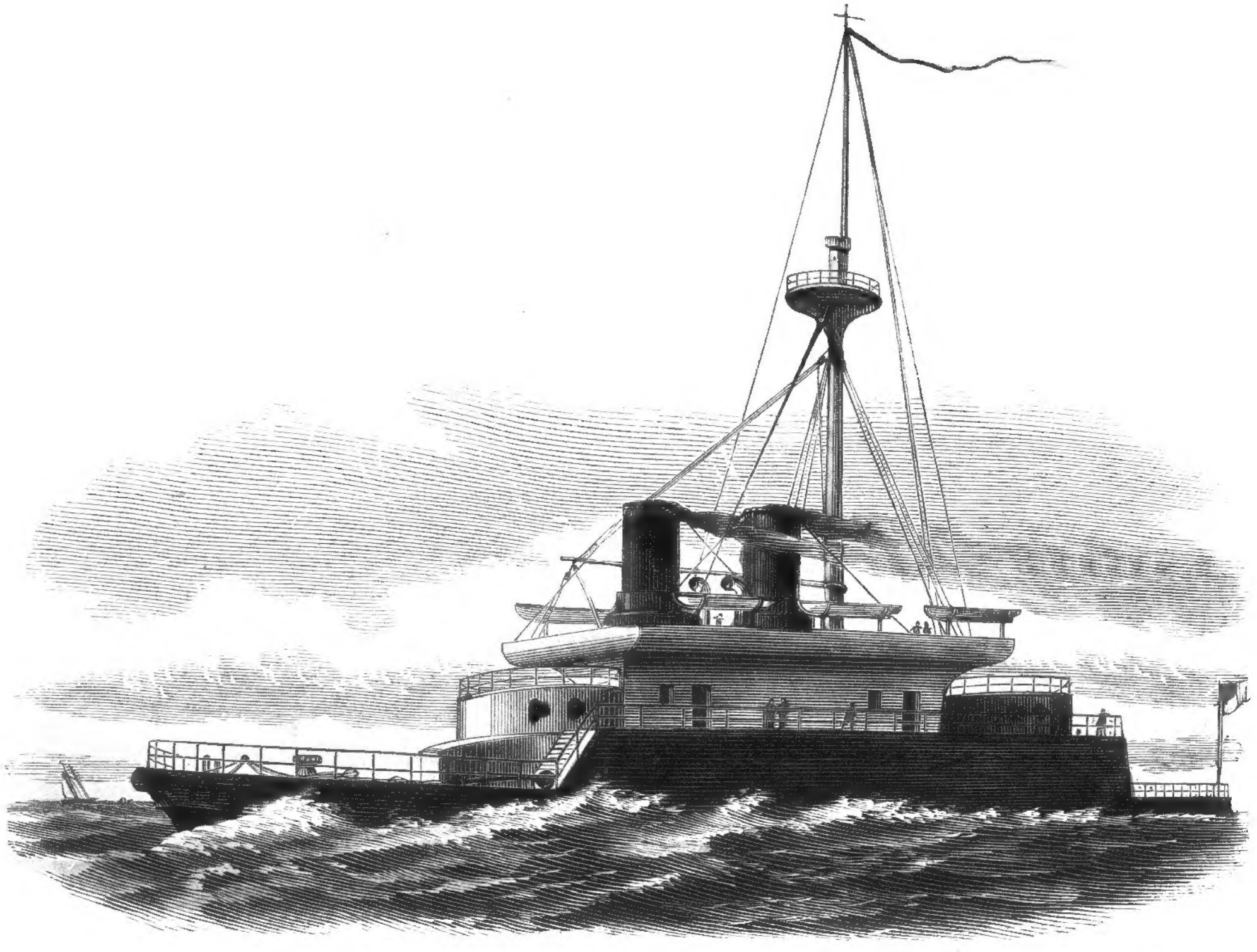


THE DEVASTATION.

p. 321.

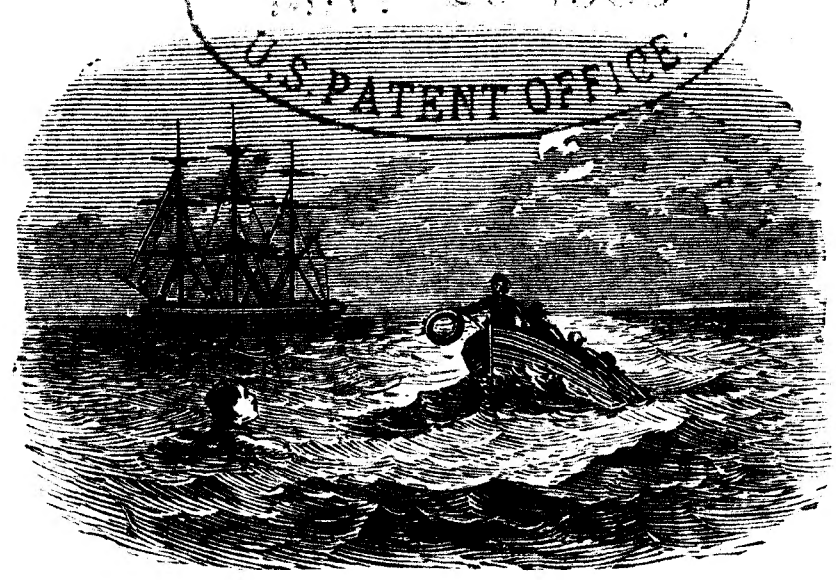
THE

HISTORY OF A SHIP,

FROM HER CRADLE TO HER GRAVE.

WITH A

SHORT ACCOUNT OF MODERN STEAMSHIPS.



THIRD EDITION.

ILLUSTRATED.

LONDON:
WILLIAM TEGG & CO.,
PANCRAS LANE, CHEAPSIDE.
1876.

PREFACE TO THE PRESENT EDITION.

HOWEVER valuable this work may be as an account pleasantly told of the experience of Grandpa, it would be scarcely fair to issue the present edition without adding some account of the marvellous changes wrought by steam and by machinery driven by steam, since Grandpa's day. Accordingly a short account of the steam-engine, its application to propelling vessels, and its gradual introduction into the Mercantile Marine and the Royal Navy, with the changes in the build and rig of the vessels consequent thereon, has been given succinctly, in the hope that it may interest the present generation.

PREFACE.

THE best apology which the Author of this work can offer, for ushering his book into the world, is the absolute want of some treatise, arranged as an instruction book for youth, on the subject of which it treats.

When in the society of children, he has frequently heard such expressions as these: "Mamma, I wish you would buy me a ship!" "Papa, is there not any book that tells about ships; how they are built, and rigged, and how they sail? I wish you would get me one; I should so much like to read it!" Another would say, "Oh, mamma, William Talbot has a large ship, but he does not know the name of any part of the rigging; and, when he sails it, he gets it frequently upset, because he does not know how he should set the sails and the rudder, to make her steer properly. What a pity it is that there is not a book to explain to us how we should do all this!" Another young gentleman will be reading a work on naval matters, and he

will get puzzled by the following expressions:—"Haul in the weather main-brace"—"Let go the lee"—"Man the clue garnets"—"Let the main-sheet fly." Of such terms as these, many may ask their parents in vain for an explanation.

The Author hopes that the following pages will, in some degree, remove this bar to the attainments of youth.

For the sake of rendering the whole plain and easy of comprehension to the juvenile reader, numerous illustrations and diagrams are interspersed throughout the work; nor is the Author aware that he has overlooked anything which would tend to render his work both useful and entertaining.

LIST OF ILLUSTRATIONS.

CONTENTS.

CHAPTER I.

Grandpa Ben relates a circumstance that occurred in his younger days,—what induced him to write this work—Grandpa's grandchildren are introduced to the reader—What joy and excitement they displayed on hearing that Grandpa was going to write a book about ships.

IN my youthful days there were thousands of English people who had never seen a ship; and although railways have familiarised many with the sea, and with ships, there are still large numbers who have never seen either. I can well remember the wild enthusiasm displayed by two of my cousins who came to visit my father's home in Liverpool when I was about fourteen, and their eagerness to be taken to see the ships.

I was surprised, nay, even disappointed with this; for I had imagined they would, as most schoolboys do, have chased with me to the play-room, to examine and amuse themselves with my toys and books. And yet why was I disappointed? Only because it had never occurred to me that they had not seen a ship; and coming now,

for the first time, from a large inland town, to our residence at a considerable sea-port, where ships of all classes and descriptions are to be met with, their curiosity to see them was at the highest pitch; nor would they be satisfied until I had taken them to a spot that commanded a view of the shipping in the harbour.

Yet some will say, "You have not fully explained why you were disappointed, Grandpa?" Now it was simply for this reason; I had been always accustomed to the sight of ships; I had seen them leaving port in all their splendour, with every sail set to catch the favouring breeze; and I had seen them return, laden with the produce and the luxuries of foreign climes; whereas my cousins had only heard of them. Now this had never entered my young brain; and here had I been for weeks in expectation of this, the first visit of my cousins, puzzling myself to devise schemes of amusement for them to such an extent, that everything else was neglected—my lessons at school were not learnt—my writing was agitated—my arithmetic incorrect—and at home so busy was my fancy at work upon some plan of enjoyment with my cousins, that I partly forgot my meals, and slumbered but half the nights. Now was it not a disappointment,

that, after all this anxiety, I should never once have thought of the ships, the sight of which gave them so much surprise and delight?

Perhaps some of my young readers will exclaim, "Ah! I wish I had been your cousins, and have seen them too, for I long to know all about them; they must be very grand."

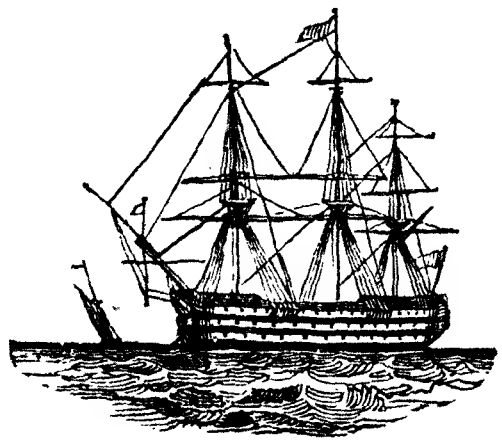
It was on a beautiful summer evening, whilst sitting in an arbour by the side of a large fish-pond, in the lawn of a delightful residence, situate in the picturesque and romantic county of Devon, and near the sea-coast, that the above circumstance crossed my mind.

My thoughts were more particularly led in this strain by the fact, that I was then witnessing the amusement of several rosy-cheeked boys and girls (my grandchildren), who were sailing some little ships in the lake, and expressing their extreme delight in joyful shouts of laughter, when any of their miniature fleet accomplished their dangerous voyage from one end to the other of the sheet of water, in which direction, the wind was blowing at the time.

Now it occurred to me, that there were many young folks, who, like my cousins, would be delighted to see

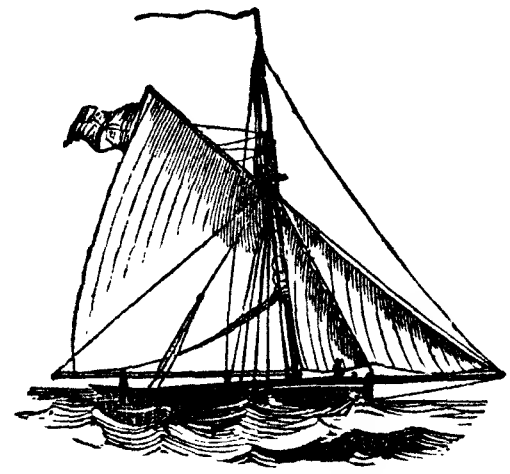
the ships, or else to know something about them ; how they were built—how rigged—how the sails were fixed—and in what manner, when the ship was fully equipped, and ready for sea, she was guided across the ocean, whether in daylight—in darkness—or in the midst of terrific storms, to any part of the world, when no land was visible for days and weeks together. I was certain that to some this must be a puzzling subject, and I was half inclined to sit down and write a book on these matters, to enlighten those young inquisitive people, which a little circumstance that just then occurred with my young grandchildren, really induced me to do.

The eldest of them, Edward, who was about twelve years of age, had a fine ship, with three masts and three decks, from the port-holes of which glistened the mouths of small brass cannon. It had, also, a full set of sails. I had presented it to him a day or two before, in reward for the very favourable report I had received of his general good conduct and attention to his studies at school.



EDWARD'S SHIP AT SEA.

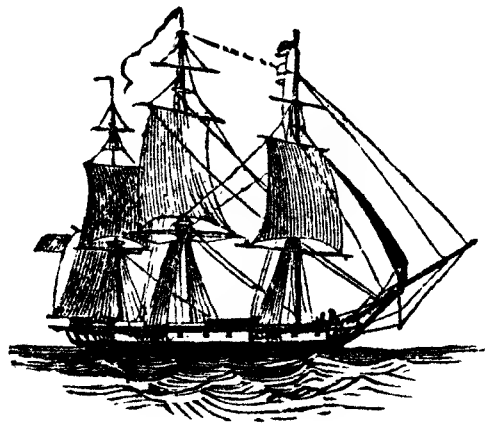
Now Edward's ship—I should say, his line-of-battle ship—had accomplished her voyage twice through the lake, without any more serious adventure than running over a frigate belonging to Charles, and a cutter belonging to Edmund, both of which were left on their side, or on their beam-ends, as sailors say. Another little cutter belonging to William, got entangled with the rigging of the larger ship, and was brought to the shore as a prize by it. It was now necessary that the aid of Thomas (the gardener) should be called in, to go off in the boat kept for fishing on the lake, to the rescue of Charles' frigate, in which he had just succeeded, and set the little vessel again in motion before the wind, when he was obliged to pull in another direction to the assistance of Edward's ship, which had been caught by a sudden gust of wind, and, having too much sail set, without sufficient ballast in her hold, had turned over, and lay on her beam-ends, with her masts and sails buried in the water and in danger of sinking. Thomas, however, reached her in time to prevent such a disaster, and, having set her again in motion, she



EDMUND'S CUTTER.

continued her course; sailing as proudly through the water as if nothing had happened, and reached the shore in safety.

Witnessing the triumphs and disasters of this little fleet of ships, many events of my past life recurred to my mind—some of storms and calms, and others of the exciting and death-dealing battle. Many old messmates, some now, alas! tenants of the tomb, were recalled to memory, and conversations, and acts performed with them, acted o'er again. Busy fancy was at work, when I was suddenly interrupted in my reverie by Charles, who had recovered his frigate, and came bounding into the arbour with it in his hands, saying, "Oh, dear grandpa, how I should like to be a sailor; and then, when I was old enough, I should have the command of a real ship like Edward's, and I should be able to prevent such an accident occurring to my ship as just now occurred to his; for I would take in the sails, if the wind increased."



CHARLES' FRIGATE.

"My dear Charles," said I, "the expressions you have

now used, are similar to those uttered by myself when about your age, some sixty years ago. I had been amusing myself as you have, sailing a little ship in this very pond, when, seeing my uncle walking across the lawn, I ran to him and said, 'Oh, dear uncle, I should like to be a sailor!'

"Little did I think, my dear boy, that the fulfilment of this wish would be attended with so much care and suffering, hardships and privations, as I have since found are the inevitable lot of sailors. The idea of commanding a large ship—seeing the men obey my orders—and the proud vessel steering her course with all sail set, and that I alone should order this to be done, was, in my young mind, sufficient reward to compensate for any difficulty or hardship that might be encountered in the commencement of my career as a sailor.

"However, my child, my uncle made known to my mother the wish I had expressed, and everything was said and done, to induce me to alter the resolution I had formed to become a sailor, but without effect.

"I was just thinking, Charles, when you came into the arbour, how many there were of your age, who had never seen a ship at all, and who could scarcely imagine what it

was like—never having seen anything of the sort, except perhaps, a canal-barge, which you know is a boat of about forty or fifty feet in length, drawn by means of one or two horses, along a channel cut for the purpose, and used for the conveyance of merchandise from one inland town to another. Now you, who have seen large ships, cannot form any idea of the anxious wish many of these have to see them, or at least to know all about them; and I was thinking of writing a book that would make them generally acquainted with everything about a ship. Your remarks have confirmed that intention, and I shall at once commence my work, in which I will explain all that is worthy of notice about shipping; and lest any may imagine that a sailor's life is only a delightful one, I will introduce a few incidents that I have met with in my own voyages, which will prove that a sailor's life, although it has its pleasures, has also its difficulties and drawbacks. I will commence to-morrow morning; and, as I proceed with my work, I will read to you and your brothers in the evenings what I have written during the day."

"Thank you, thank you, dear grandpapa; I shall be so glad to know all about a ship, and so will Edward, and sisters, that I must go and tell them the treat you have

promised us;" and away Charles scampered, shouting, "Edmund! Edward! Charlotte! all of you come to me I have such news for you! Grandpapa is going to write a book about a ship; he says he will commence it to-morrow, and in the evening he will read to us what he has written during the day. Won't it be delightful? Oh! how I wish to-morrow was come, don't you?"

"Indeed I do," exclaimed Edward.

"And I," said Charlotte.

"And so do I," cried Edmund.

"And me too," added little William, the youngest of the group; and again they hurried to their joyful sport, calling to each other frequently, "Oh! will it not be delightful? I wish to-morrow would come!"

At length it became time for the young ones to return to the house to have the evening meal, to receive their parents' blessings, and, with a renewal of the promise from dear grandpapa of the history of the ship on the following evening, the children departed to their beds.

In accordance with my wish, some easy lessons were recited during the mornings of the children's holidays, with the view of keeping those last acquired at school fresh in the memory; a plan that should be followed by all parents

and guardians of children, as many youths during a long holiday, by neglect of studies, will lose more in one month passed in play and pastime only, than can be recovered in two or three, on their return to school. I do not mean to say that the whole holidays should be devoted to study, nor that the same strictness should be adopted as they were accustomed to at school; but an hour or so in the morning may be spared for the purpose of committing a few easy tasks to memory, and the remainder of the day is quite sufficient for sport.

I need not tell you, my young friends, that the lessons for the day on which the history was to be commenced, were soon learnt, and, long before the evening arrived, many visits had been paid by each of the youngsters to the clock; and never did they think the hours had passed so slowly as on this day.

"Do you know," says Charles to Edward, "what time it is now?"

"No, but I will go and look at the clock. It is only two yet," says Edward; "it wants four hours to six o'clock; what shall we do till it comes, to make the time appear shorter? Suppose we go and sail our ships again."

But they were all too excited to continue for any length of time in any particular sport; after sailing the ships for a little while, they joined the haymakers on the lawn, and having amused themselves with a few tumbles in the hay, this sport became distasteful; other pastimes were tried, and with the same result; nothing but the ship would do, and it was not six o'clock yet.

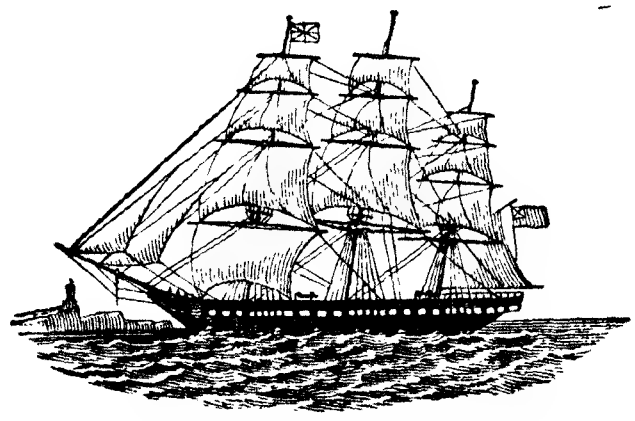
At length the long-wished-for hour arrived, and, punctual to a minute, the whole band assembled around me in the arbour.

For some time the attention of the group was wholly occupied with the folio of drawings I produced; and many curious remarks, and not a few mistakes, were made by each—such, for instance, as pointing to the round-top, and calling it the big cross-trees, and naming the fore-stay the main-brace, and such-like errors. Question upon question was asked without waiting for answers, in such quick succession, that I doubt whether a whole ship's company, had they been there, would have been able to answer in a day.

At length, after considerable puzzling at the drawings, and having satisfied themselves that they could not understand them without my assistance; and, moreover, having

discovered that I could not possibly answer five hundred questions all at once, they exclaimed, "But where is your writing, Grandpapa? We will be very attentive, if you will read it to us."

Their bright eyes sparkled brighter, as the first part of the manuscript was drawn from my pocket. What it contained will be seen in the next chapter.



LINE OF BATTLE SHIP (TIME OF GEORGE I.).

CHAPTER II.

Contains a little information about the ships used in the reigns of Kings Richard III., Henry VII., and Henry VIII.; also of bombs and fireships—The state of the Navy at the death of George I.—The framework of the Prince of Wales described—Why the bottoms of ships are coppered—A little touch of natural philosophy about the ribs (*of the ship*)—Description of the midship section—Description of the longitudinal section—The stocks—The cradle—and the launch of a 74-gun ship.

BEFORE entering upon a description of the grand old ships of war in which Rodney, Howe, Jervis, and Nelson achieved such successes over the enemies of Great Britain, I will endeavour to enlist the attention of my readers whilst I give a short description of some of the most famous of those in use by our forefathers; which, although highly prized and admired in their day, would present a strange contrast, were it possible that any of them could be placed alongside one of the present day.

Alfred was the first English monarch who established a fleet of war vessels to resist the invasion of the Danes. William the Conqueror had a fleet of 500 vessels in the

year 1065. Nine ships of larger size were built by Richard I. for his expedition to the Holy Land; and the royal fleet in the reign of Edward I. consisted of 710 vessels in 1344. The bowsprit was added to ships of war during the reign of Edward III. Port-holes were first introduced by French ship-builders in 1500.

A ship, called the 'Great Harry,' was built in 1488, and is stated to be the first three-masted ship of the Royal Navy; and, as late as the year 1545, appears to have been the only ship of that description in the English fleet. It is supposed she was accidentally burnt in 1553 at Woolwich; so that she was in existence 65 years.

Historians agree in giving the honour of establishing the constitution of the present Royal Navy to Henry the VIII. He instituted an Admiralty and a Navy Office, with Commissioners; and fixed regular salaries for them, as well as for his admirals, officers, and sailors, and the sea-service thenceforward became a distinct profession.

The cannon or guns used by both Richard III. and Henry VII., in their men-of-war (all single-masted ships), were of a rude description; and as their ships had no port-holes, they were mounted so as to fire over the bulwark or side of the ship, with the exception of the Great Harry

which had two decks, and port-holes were of course introduced.

The next large ship of which we have any account, was one built in the year 1515, at Erith, a small town on the Kentish shore, between London and Gravesend, and said to have measured about 1000 tons burthen; she was called the Henri-Grace-à-Dieu, and carried, about 80 guns of various sizes. She was the first three-decked ship built in England, and had four masts. Her name was changed to the Edward in 1552, but no record exists of her after-fate. This ship had two whole battery-decks, and a short one, or platform at the head, which was raised very high, whence probably arose the name forecastle being given to that part of the ship; and a similar short raised deck at the stern, called the poop. Upon these decks guns were also used.

The next ship of any note was the "Soveraigne of the Seas;" she was the largest of all that preceeded her, and was built at Woolwich Dockyard in the year 1637. This ship had three battery or gun decks, with additional platforms or short decks at the head and stern. She carried above 100 guns, and was estimated at 1680 tons burthen.

The first classification of the ships of the navy appears to have been in 1546 They were then 58 in number;

the first class being called "shyppes," the second "galleases," the third "pynnaces," and the fourth "roo-baerges," or row-barges. Now all the ships built before the Great Harry had but one mast and one sail; these must, therefore, have formed the first class. The galleas was probably a low, long vessel, propelled by oars as well as sails, perhaps not fixed to the mast, or any standing yard, but merely hoisted from the deck as occasion required. The "pynnace," or pinnace, was probably a smaller kind of galleas, without any mast, or else a moveable one. And the "roo-baerge," or row-barge, was a still smaller boat, of course without any sails.

In the reign of Charles I., the British Navy was divided into six rates, the same as in the present day; each rate consisted of two classes, to which different complements of men were assigned.

In the year 1688, we have the first introduction of bombs and fireships into this country. The Bomb was a vessel carrying six or eight small guns, and two heavy mortars for throwing shells into a town or fortification, or otherwise annoying an enemy. This was the invention of a Frenchman of the name of Rayneau, and first employed at the bombardment of Algiers, in the year 1681.

Fire-ships are small vessels filled with combustible and explosive materials, which are sent into the midst of an enemy's fleet, where they are ignited by a train, and are pretty certain to cause the destruction of some of them. The fire-ship I shall allude to hereafter, when a more particular description will be given.

From this period successive improvements were made, both in the form and rigging of the ships; the high platform at the head of the ship was done away with, though the name forecastle is still retained.

At the death of George I., in 1727, the number of ships was 178, the rates of which were thus divided :—

First-rates,	from	100	guns	upwards,			burdens	about	1900	tons.	
Second . . .	90	and	below	100	..	..	1600	..			
Third	70	..	90	..	from	1200	to	1400	tons.		
Fourth . . .	50	..	70	..	..	800	..	1000	..		
Fifth . . .	30	..	50	..	..	400	..	600	..		
Sixth . . .	20	..	30	..	..	400			..		

The term frigate appears to have been first applied to ships of war by the English; and in fact almost all English merchant-ships were called frigates about the middle of the sixteenth century: and, curious as it may appear, we have an account in 1588, of a merchant-ship

being hired, called the " Frigat Elizabeth Fonnes," as one of the ships serving with Sir Francis Drake. This ship was only 80 tons burthen, and carried 50 men.

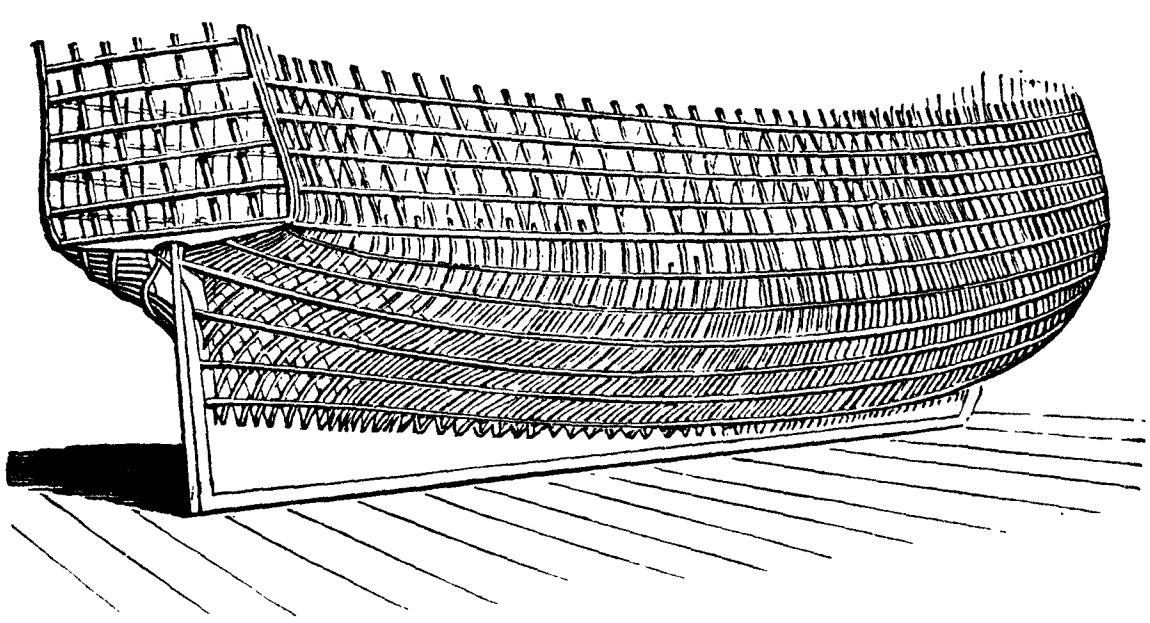
Having stated thus much of the shipping used in the olden time, I will now describe a first-rate of my young days: and, in order that my young readers may fully understand this description, I will give an enlarged sketch of the principal parts, with figures or reference letters attached, and to each part its proper name will be assigned. In order that too much should not be crowding upon your minds at the same time—in which case you would gain but an imperfect comprehension of the subject, if any at all—I will explain and dispose of each drawing separately; merely hinting here that very careful attention to these explanations is absolutely necessary, that you may understand the meaning of orders given by the captain and officers, when I relate my voyages.

I will commence with the drawing of a ship in frame, which shows the main timbers of the hull, before any of the planking is laid on.

I have in this drawing omitted showing the stocks, and what is called the cradle, as they would have interfered with the view of some part of the ship's framework, and

will be afterwards more particularly explained when describing the launch, in which both the stocks and the cradle are shown.

The whole length of the keel is supported on blocks of wood placed across, between the stocks or ways. On the top of the keel, branch out on each side, long, bent, square timbers, called the ribs, which at the lower part, in the middle of the ship, form nearly a quarter of a circle on each side, and are afterwards carried nearly upright. Upon



THE FRAMEWORK OF THE PRINCE OF WALES.

these timbers, where they cross the keel, is laid, in the same direction as the keel, another long square timber, which is called the inner keel, or kelson. The keel and

kelson are fastened together at every place where the floor timbers cross them, by iron bolts passed through all. That portion of the ribs which touches and crosses the keel is called the floor timbers. Upon the kelson are the steps of the masts.

The ribs are divided into several parts, which are called futtocks. I will presently describe them. To the ribs the planking is nailed, and bolted through them, after which, the seams are caulked. This is done by forcing oakum, saturated in tar and pitch, into the spaces between the planks, when a good coat of tar is laid over the whole. That part of the ship which is always under water, is covered with thin sheets of copper. This is done to prevent the attack of a destructive little animal called the wood-worm, which eats its way into and through the planks, making holes nearly an inch in diameter; these holes would, by admitting the water into the hold of the ship, very probably cause her loss, as it is impossible to stop the ravages of this little creature while the ship is at sea. The worm attacks every part that is below the water line in such immense numbers, that every plank in the bottom of a vessel that had not the protection of copper, has been found full of them on her arrival into port,

where an examination could be made. But to return to our subject.

The ribs of the ship, which are of great length, you cannot suppose are all in one piece; no tree could be obtained of sufficient bulk, and in the form in which you see them: consequently great ingenuity is required on the part of the builder to connect the different pieces (which are called first, second, and third futtocks) in such manner as to render them firm and strong. If not joined properly, the vessel could not bear the weight of cannon, chain cables, and other heavy things she would be required to carry: nor the severe shocks she would receive in her voyages across the ocean, particularly when storms were encountered, in which her timbers are dreadfully strained, making a tremendous noise—even in a strong-built vessel, so great, as to induce inexperienced persons to think the ship is going to pieces.

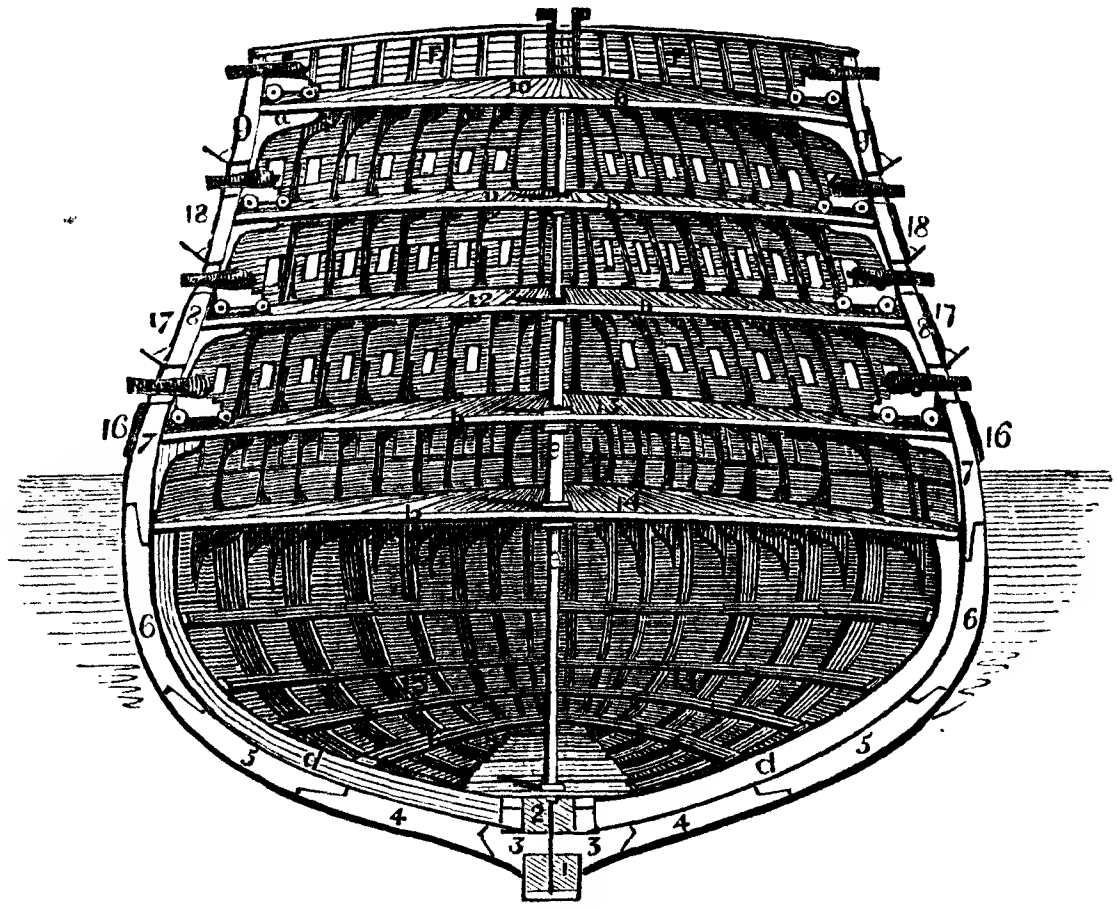
A great deal also depends on the position in which these ribs are placed, not only for the purpose of containing her cargo, but to enable the ship to sail well. Now, if the broadest part be placed too near the stern, or after part of the vessel (which is towards you in the drawing), she will not pass through the water so swiftly as she would, if it

were nearer to her bow, or the fore part of the ship. This I will make more clear by a little experiment, which any of my readers may try themselves, in the same manner as I explained it to my grandchildren.

"Here is a long plank, which, you see, is broader at one end than the other. Now, to a nail in the narrow end I will attach this cord, and put the plank in the water; and you, Edward, shall draw it to the shore. You find that it requires a very strong pull to do this, because the end and both sides of the plank are exposed to the resistance of the water. I will now change the cord to the broad end of it, and you will draw it along with great ease. You see, in this case, the end of the plank alone meets the resistance of the water; and, as water will always keep its level, it now actually helps to force the plank onward, by returning rapidly into the space from which a portion has been removed, to admit the passage of the plank through it. For this reason ship-builders place the broadest part nearer the bow than the stern of the vessel."

The section, called the "midship section," will show the disposition of the timbers. Nos. 4, 5, 6, 7, and 8, are the first. second. third. fourth, and fifth futtocks; 9, 9, are the

top timbers; 3, 3, are the floor timbers; 2, the keelson, or kelson; 1, the keel below, to which is attached a piece of timber from end to end, called the false keel, which is put



MIDSHIP SECTION.

on, to save the main-keel from being rubbed, when the ship may ground, or touch the bottom; *b b b b b* are the beams upon which the deck planks are laid. The beams are

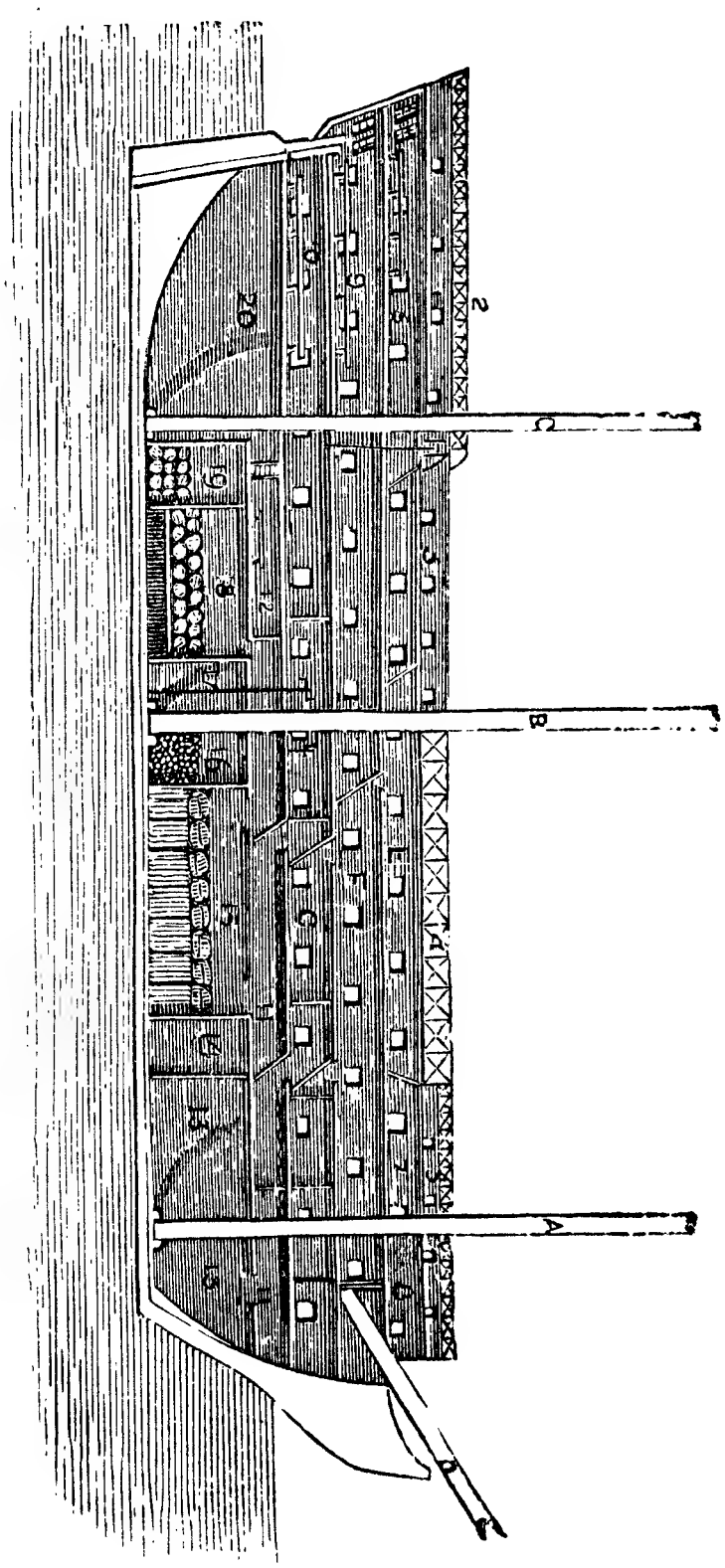
supported, and fixed firmly to the side-timbers or ribs of the ship, by means of knees, *a*, which are crooked pieces of oak, and obtained nearly in the shape in which they are used—they are shown under all the decks, adjoining the ship's sides. The New Forest, in Hampshire, is noted for producing the best timber for this purpose. Of late years, however, knees of iron have been substituted for those of wood, as they are found to possess greater strength, and occupy less room; besides which, a difficulty sometimes exists, of procuring the timber in the shape and size necessary. There are pillars called stanchions, either round or square, run up through the middle of the ship, which form a centre support for the beams and decks. No. 10 is the quarter-deck; 11, the main-deck; 12, the middle-deck; 13, the lower deck; 14, the orlop deck and cockpit; 15, the hold. No. 16 is the main-wales; 17, the middle or sheer-wales; 18, the channel-wales. The wales are extra thick planks, carried the whole length of the ship, to strengthen the planking.

The next drawing I shall describe, is called the longitudinal section; it shows the vessel entirely built, with one-half removed, so as to open to view all the interior divisions, or compartments.

The following is the explanation of the letters and figures in the drawing :—

A is the foremast, B, the mainmast, C, the mizen-mast, and D, the bowsprit. The masts are carried right through all the decks of the ship, and fixed on the kelson ; this is called the step of the mast.

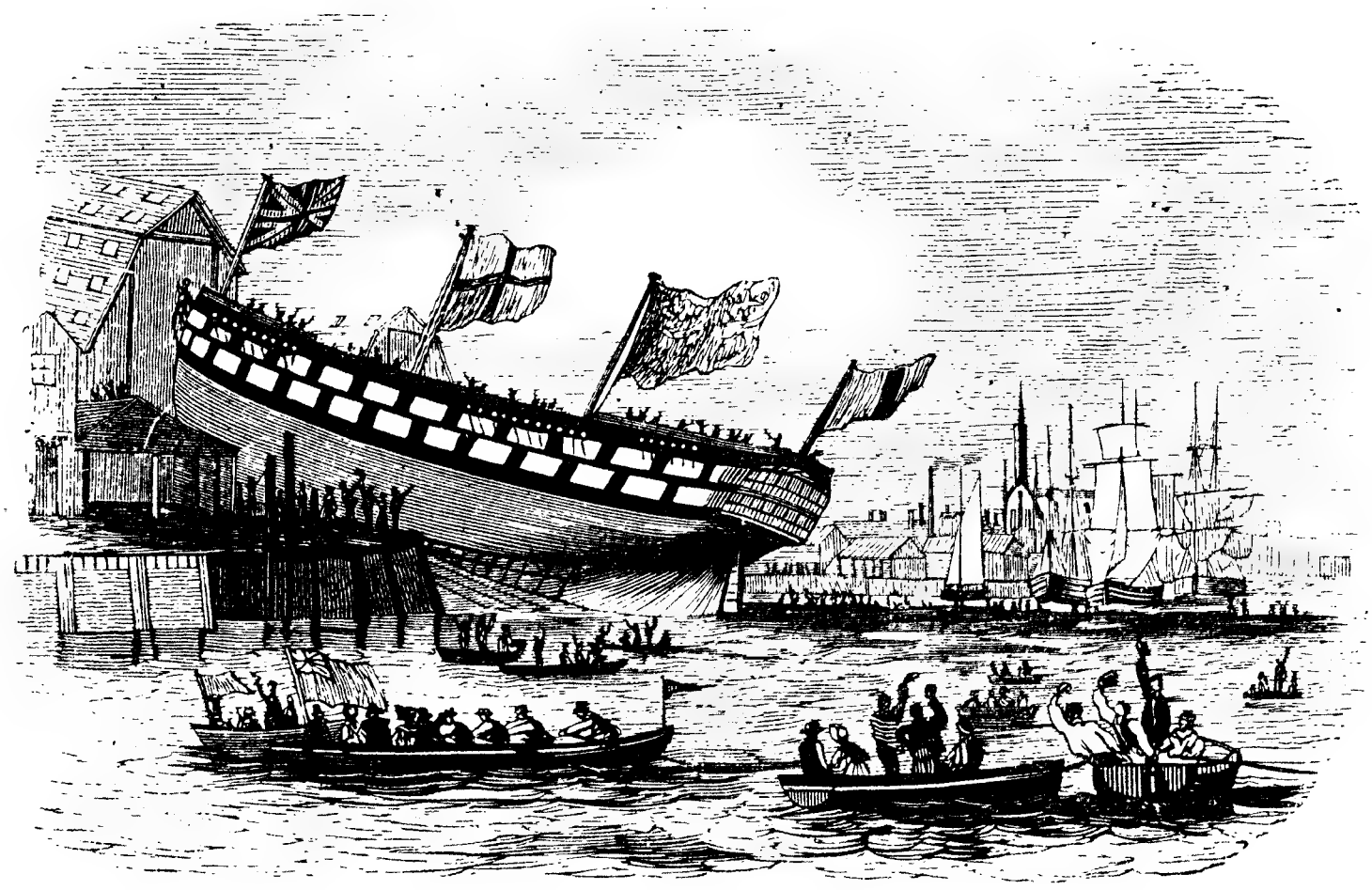
I will now go through the decks, commencing with No. 1, in the after part of the ship ; this is the captain's cabin ; 2 is the poop, directly over it ; 3, the quarter-deck ; 4, the waist and gang-



way ; and 5, the forecastle. These are all the divisions on the upper deck, which is the longest in the ship, and measures about 212 feet, by 52 feet wide. The depth of the hold in the middle, or amidships, is about 52 feet.

The next deck, with the letter E, is the main-deck ; and at No. 6, immediately under the captain's cabin, is the admiral's state cabin. In the fore part of the ship is No. 7, the galley, or cook's room ; and No. 8 is the sick-bay. These are the principal divisions of the main-deck. A portion of this deck, in front of the admiral's cabin, is commonly called the half-deck.

Under the admiral's cabin is the wardroom, No. 9, where the lieutenants and other commissioned officers mess. This is on the middle deck, and is lettered, F ; and is the only division on it. G, is the lower deck, and No. 10, in the after part, is the gun-room This is where the mates, some of the midshipmen, the assistant masters, and assistant surgeons, and the ship's clerk, mess. No. 11 is the orlop deck ; and 12, the cockpit. The following are all in the hold—viz. 13, the boatswains' and carpenters' store-rooms ; 14, the powder magazine ; 15, the tanks and water-casks ; 16, the shot-well ; 17, the pump-well ; 18, where beef and pork in casks are kept ; 19, the spirit-



THE LAUNCH.

p. 27.

room; 20. the bread-room. The after magazine is situated under the front of the gun-room.

The ship, finished as you see in the section (excepting the masts, which are got in afterwards, as I will describle), is now ready to be launched. This is a splendid sight, and generally draws an immense concourse of spectators.

Here is a drawing of a launch, in which the ship is just leaving the stocks, sliding gracefully down, and amidst a deafening cheer entering that element, which is to be her after home; which will bear her, guided by the skilful hand of man, to distant lands; now, as if caressing her, reflecting the majestic vessel upon its glossy surface; or rising, urged by the powerful winds into mighty billows, threatening to engulf the hapless wanderer, or to rend her in pieces, and striking terror into the breast of the mariner.

But perhaps you will ask me how is she launched? This is a very natural question, as it must be supposed that such a ponderous building, without being fixed in a peculiar manner and with great ingenuity, could never be moved by manual strength. Thus then it is done:—

The stocks on which the ship is built, are higher at one end than the other, forming what is called an inclined

plane, which is carried out into the water some distance, to allow the vessel to be so far immersed before she leaves their support, as nearly to float her; when one short plunge takes place, and the proud ship is in her element.

The ship is supported in an upright position on the stocks, or ways, by strong pieces of timber, framed together, called the *cradle*, which is shown under the ship in the launch. The cradle slides down the ways with the ship, until the water renders its longer support unnecessary; when, by its peculiar construction, it falls to pieces, floats on the water, and is picked up by boats and brought ashore.

She is prevented from sliding down the stocks until entirely ready, by strong timbers, called shores, placed in a slanting direction, with one end firmly planted in the ground, and the other resting against the hull, or body of the ship; these shores form supports for the ship's framework whilst building, and, when everything is complete, are all removed. When the launch takes place, the ways are greased to prevent friction, and to allow the ship to pass on freely.

When the last of the shores, called the dog-shores, are removed or knocked away, and by her own weight, the ship

is beginning to move, the christening or naming of the ship takes place, which ceremony is considered to be of great importance, and one that, with line-of-battle and other large ships, is conducted with much form, and generally performed by the fair hand of a lady of exalted rank, in the presence of thousands of spectators.

A bottle of wine, suspended from the ship's bows by a cord, is presented to the lady, who pronounces the ship's name, and dashes it to pieces against the stem or cutwater; when the ponderous ship rushes down the stocks, and becomes the tenant of the briny ocean. After the launch a sumptuous dinner is generally provided by the builder, to which the owners and friends, if it is a merchant ship, do full justice, and at which success to the ship is heartily drank.

CHAPTER III.

Gives a description of the building-shed—A dry dock—The method of getting the masts on board; also a list of the officers and men of a first-rate—The shear-vessel described—The rates of men-of-war—All the standing, and some parts of the running rigging of the Prince of Wales described.

THE ship being launched into what I have heard called "her native element" (it might be called "her future element" with a better grace), the next subject for consideration is, to know how the masts are fixed in their places. This to a landsman must appear a very difficult task, and I have no doubt considerably puzzled the earlier shipbuilders. It is plain that for want of height the masts cannot be raised whilst the ship is on the stocks, under the shed which is erected for the purpose of keeping the ship dry whilst building, and to enable the shipwrights to work in all weathers. This shed is a large roof of wood-work, supported on wood or iron pillars, entirely boarded over, and then covered with canvas rendered

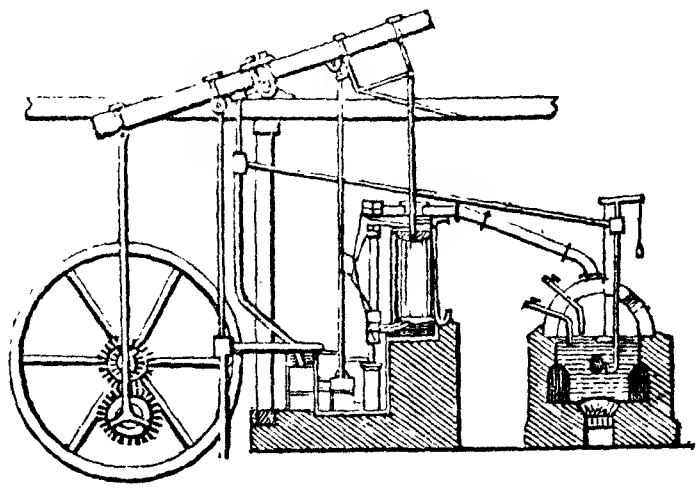
waterproof, by a coating of pitch and tar. Light is admitted into the interior through large windows or skylights. Similar roofs are placed over the dry docks.

Now a dry dock is a very useful thing in a dockyard; in fact, it could not be dispensed with, and I will tell you why. You must be aware that it would be quite impossible that a first-rate ship, when in need of repair, could be hauled up on dry ground to allow of its being done, in the manner that boats and small craft are in such cases. To overcome this difficulty, a space inside a quay or sea-wall is chosen, where there is sufficient water for the ship to approach it; and this space is excavated to such an extent, both in length and width, as to permit the vessel to float into the opening, with an allowance of room around her for the operations of the workmen. The sides of this space are finished with a wall of masonry ascending by large steps to the top.

The time chosen, both for docking and launching large ships, is high water of spring tides; at which time the tide rises considerably higher, and recedes or ebbs to a greater depth than on ordinary occasions. By taking advantage of this opportunity much labour is saved—for instance:—

We will suppose the ship draws twenty-four feet water

(or that she requires twenty-four feet depth of water to float her), the average height, from low to high water, of a spring tide, is eighteen feet on our coasts. You will perceive that in addition to this depth, in making the dock, a farther depth of six feet must be excavated, to allow the vessel to float into it. This is of considerable importance in another way; for, when the vessel has floated into the dock, before anything can be done to her, all the water must be removed. Now eighteen feet in depth will flow out with the receding tide; and when it is low water, the strong gates fixed at the entrance of the dock are closed, and rendered water tight, and the space within is thus shut off from the next flowing tide. Hence we have only to dispose of the six feet of water in the bottom of the dock, that is, below the level of low-water mark; and this is easily removed by pumps, worked either by a steam-engine or by manual labour.



CONDENSING STEAM-ENGINE.

We will now return to the ship, which is still waiting to

have her masts on board. For this purpose she is either taken alongside a shear-hulk, or into a dry dock, by the side of which are erected shears. A very fine specimen of the latter machinery is to be seen at Woolwich Dockyard. Before the ship is rigged, the captain and most of the crew are appointed, as the men have to assist in rigging her. I therefore subjoin—

A list of the officers and men, forming the crew of a first-rate, or ship of 100 *to* 120 *guns, arranged according to their rank and rate of pay.*

Captain	1	Ship's corporals	2
Lieutenants	8	Captain's coxswain	1
Master	1	Launch ditto	1
Chaplain	1	Quarter-masters	12
Surgeon	1	Gunner's mates	5
Purser	1	Boatswain's ditto	8
Second-master	1	Captains of forecastle	3
Assistant-surgeons	3	——— hold	1
Gunner	1	Ship's cook	1
Boatswain	1	Sailmaker	1
Carpenter	1	Ropemaker	1
Mate	1	Carpenter's mates	2
Midshipmen	23	Caulker	1
Master's assistants	6	Armourer	1
Schoolmaster	1	Captains of main-top	3
Clerk	1	——— fore-top	3
Master-at-arms	1	——— mizen-top	3

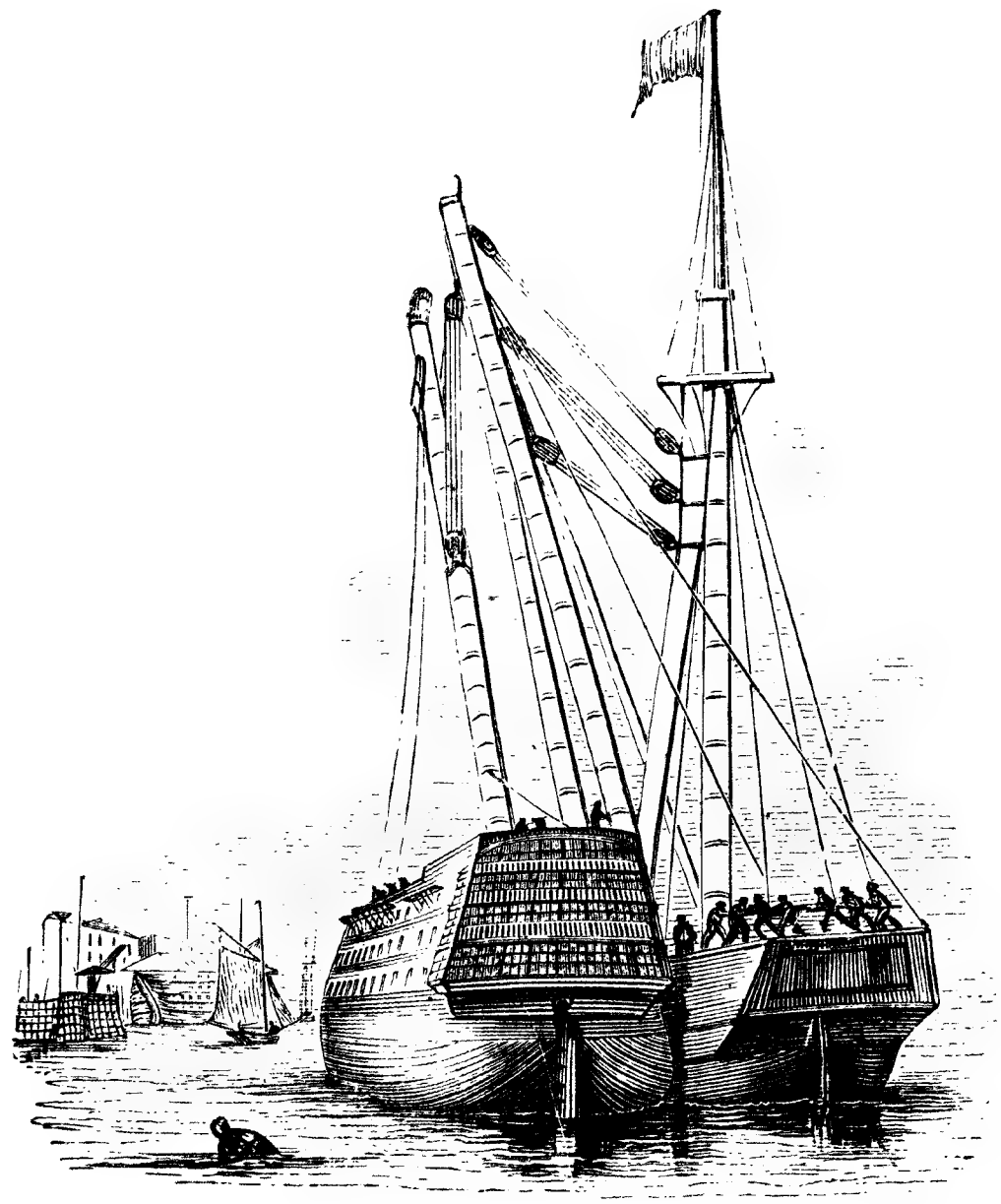
Captains of after guard	3
Yeoman of signals	1
Coxswain of the pinnace	1
Sailmaker's mate	1
Caulker's ditto	1
Armourer's ditto	2
Cooper	1
Volunteers	12
Gunner's crew	25
Carpenter's ditto	18
Sailmaker's ditto	2
Cooper's ditto	2
Yeoman of storeroom	1
Able-bodied and ordinary seamen	478
Cook's mate	1
Barber	1
Purser's steward	1
Captain's steward	1
——— cook	1
Wardroom ditto	1
——— steward	1
Steward's mate	1
Boys	32
Total	690

MARINES.

Captain of marines	1
Lieutenants	3
Serjeants	4
Corporals	4
Drummers	2
Privates	146
Grand total	850

In second-rates, the total complement is	675 men,
Third ditto	625 ditto,
Fourth ditto	400 ditto,
Fifth ditto	290 ditto,
Sixth ditto	140 ditto.

In sea-going ships, particularly in war time, a great many officers and men are taken out as supernumeraries: who are either to be drafted into other ships in foreign ports that may need them, or to fill up vacancies occasioned by



ALONGSIDE A SHEAR HULK, GETTING IN THE MASTS.

death or losses in action. A first-rate may have supernumeraries to the number of 200 or 300.

It has been ascertained that the actual weight of a seventy-four-gun ship including the hull, rigging, guns, stores, officers, and men, together with six months' provisions, amounts to about 2800 tons; and the quantity of water displaced when the ship is afloat, is equal to about 100,000 cubic feet.

The weight and displacement of water, as given in the seventy-four, which is a third-rate, will be proportionably increased or decreased in all the other rates; and it would be unnecessary to give a detail of them.

But will not some of my readers say with astonishment, "Is it possible that so many as 850 or 1000 people can be lodged in one ship? Why, she must be as large as a little town; and how is it possible that any sea could ever injure her?" But such is the case; and, though she is thronged with people, yet the admirable order and regularity in which everything is conducted, preserves her from many of the disasters to which smaller ships with fewer hands are subject.

The Prince of Wales was taken alongside the shear-hulk to get her masts hoisted in. The shear-hulk is a large

strongly-built vessel, and well moored by strong chains in a convenient spot on the water where any ship can approach her.

This vessel is fitted with a strong perpendicular mast; and two others, called the shears, fixed on pivots or hinges to strong framework on the deck, as shown in the drawing. The upper ends meeting in a point, are suspended by strong tackle from the mast-head in a slanting direction, leaning to such a distance over the side of the hulk, as to hold the mast to be fixed in the ship alongside her, directly over the holes in the decks, when they are lowered into their places and fixed tight with wedges. Of course, it is only the lower masts that require the adoption of this method to fix them in their places; and when their great length and consequent weight are considered, it is very certain none better could be used.

The length of the mainmast is about 150 feet from the keel to the cap; the main-topmast is 66 feet; and above it the main-top-gallant-mast, 44 feet; being altogether about 260 feet: from which if we deduct 52 feet, the depth of the hull, we have left 208 feet, the height of the mainmast above the deck. In light winds royal and sky-sail masts are set, which will add from thirty to forty

feet to its height; these are at the discretion of the captain.

The foremast is in all its parts proportionately shorter than the mainmast, and the mizen is also still proportionately shorter than the foremast.

These last dimensions being given for a first-rate, of course all the other rates will have each dimension decreased in proportion to their size.

The different rates are as follows:—

First-rates are ships from	..	120	to	100	guns
Second ditto	do.	..	100	..	90	..
Third ditto	do.	..	84	..	60	..
Fourth ditto	do.	..	60	..	44	..
Fifth ditto	do.	..	44	..	28	..

Sixth ditto are sloops of war and brigs; after these come schooners, cutters, gun-boats, &c., which are not rated,

Fourth-rates are called first-class frigates,

Fifth ditto, ditto, second ditto.

Having got the masts on board, it will now be necessary for me to describe some part of the rigging, and also the means that are used for setting it up. I will, therefore, describe this generally by the drawing or diagram of the ship rigged; and of any part that requires it, I will give a separate and fuller description afterwards.

Description of Mast and Rigging of 120*-gun Ship, with their proper and general Names.*

A The foremast
B Fore-topmast
C Fore-top-gallant-mast
D Fore-top-gallant-yard
E Fore-topsail-yard
F Fore-yard
G Mainmast
H Main-topmast
I Main-top-gallant-mast
J Main-top-gallant-yard
K Main-topsail-yard
L Main-yard
M Mizenmast
N Mizen-topmast
O Mizen-top-gallant-mast
P Mizen-top-gallant-yard
Q Mizen-topsail-yard
R Cross-jack-yard
S The gaff
T The spanker boom
U The fore chains, or channels
V The main ditto
W The mizen ditto
X The quarter galleries
Y The chain or channel-wales
Z The main channel-wales.

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a The cutwater and figure-head
b The fore shrouds and ratlines
c Ditto, topmast ditto
d Top-gallant shrouds
e Top-gallant back-stay
f Topmast back-stay
g g g Topsail ties
h Main shrouds, &c., or main rigging
i Ditto, topmast ditto
j Ditto, top-gallant ditto
k Ditto, ditto, back-stay
l Ditto, topmast ditto
m Mizen shrouds
n Ditto, topmast ditto
o Ditto, top-gallant ditto
p Ditto, ditto, back-stay
q Ditto, topmast ditto
r r r Mizen, mizen-top, and mizen top-gallant stays
s s s Main, ditto, ditto
t t Stay tackles
u u Fore and main-yard tackles
v v v Fore, main, and mizen-tops (round tops)
w w w Fore, main, and mizen cross-trees
x x x Fore, main, and mizen-trucks
y y Stunsail, or studding-sail booms, on the fore and main-yards.

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1 The jib-boom
2 Bowsprit
3 Sprit-sail-yard
4 Dolphin-strikers
5 Bob-stays
6 Jib-boom, guys, and stays

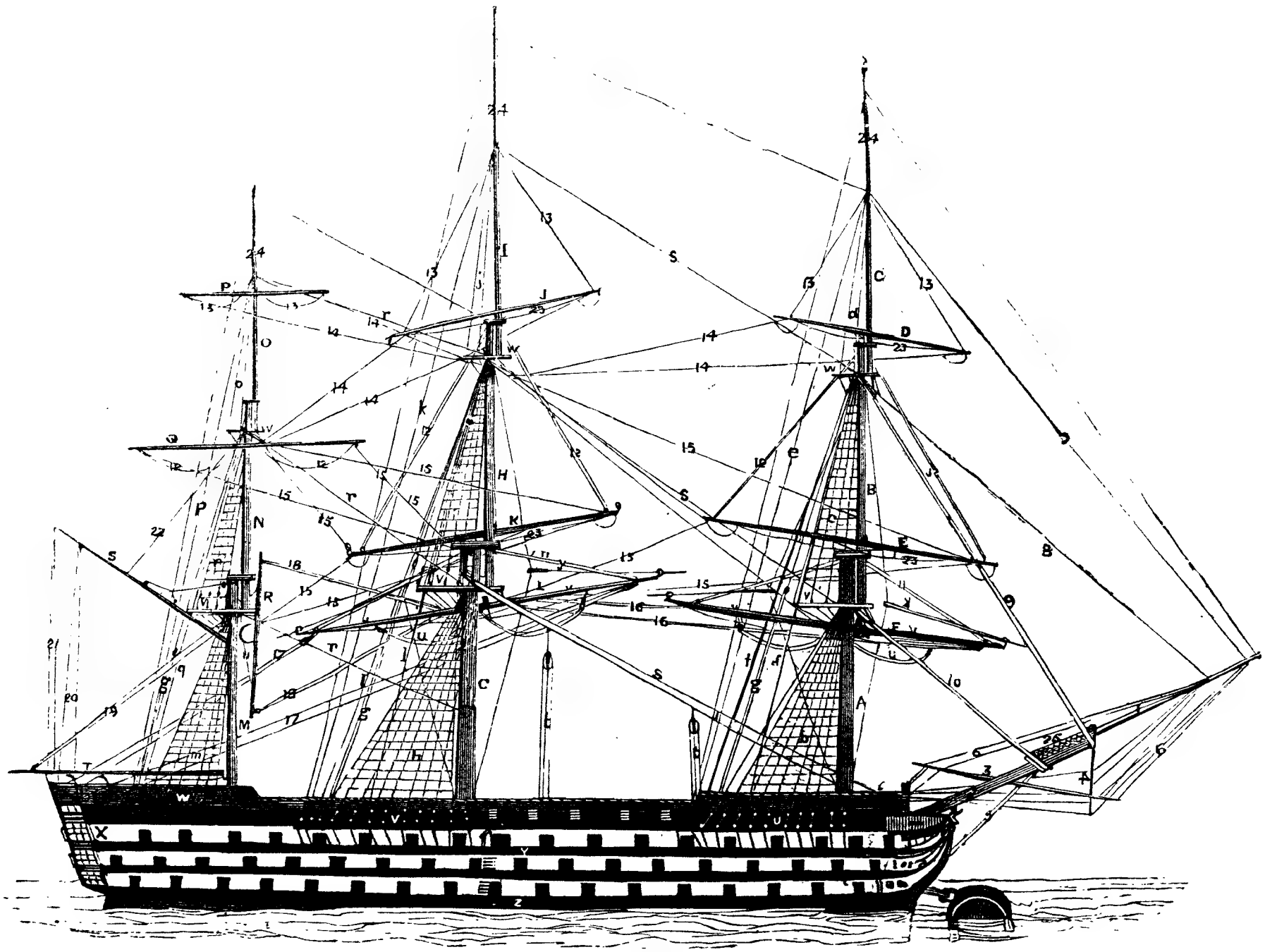

DIAGRAM OF RIGGING.

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7 Fore-top-gallant-stay
8 Jib-stay
9 Fore-topmast-stay
10 Fore-stay
11 11 11 Lifts of the fore, main, and mizen-yards
12 12 12 Ditto, ditto, topsail-yards
13 13 13 Ditto, ditto, top-gallant-yards
14 14 Fore, main, and mizen-top-gallant braces
15 15 Ditto, ditto, ditto, topsail ditto
16 16 Fore braces
17 17 Main ditto
18 18 Cross-jock-yard braces
19 Topping lift
20 Vangs
21 Signal halliards
22 Peak, or gaff halliards
23 Foot-ropes
24 Fore, main, and mizen-royals.

The plate represents the ship moored to a buoy, by what is called a bridle, which is simply a rope passed through the ring of the buoy and then secured in board.

An attentive examination of this figure with the foregoing list, will make the young reader familiar with the names of the different parts of the standing rigging, and such parts of the running rigging as are shown—viz. the braces, lifts, &c. It will be observed that the head-yards, or those upon the foremast, are braced up to the left hand (or to port, as it is called by sailors); in order to show the front or fore part of the yard, with the jack-stay; which is an iron rod fastened at certain distances to the yard by a kind of eye-bolt, a small space being left between it and the yard, to admit of the head of the sail being attached by means of small cords called rope-bands, or robins. This act of fastening the sail is called bending it, and cutting

them away and taking down the sail, is called unbending it. All the square sails are fastened in this manner.

The stay-sails and jibs are fastened to small rings or hoops, which travel freely on their respective stays, and admit of the sails being hoisted up, or set, or of being hauled down, as occasion may require. But the head of the driver, or spanker, is fastened to the gaff by a rope passed through holes in the top of the sail and laced round the gaff.

The main-yard is braced up to the right hand, or to starboard, and shows the after or hind part of the yard; and the mizen, or, as it is generally called, the cross-jack-yard, is topped up and down (raised in an upright position), and shows the method of fastening it to the mast. This fastening is of iron, and works on joints in the centre of the circular part, to admit of its being topped up and down, and at the same time to allow the yard to be braced fore and aft; and its semicircular form is adopted, to allow the topmast to pass through it when hoisted or lowered, as it may be necessary. The fore and main-yards are fixed in a similar way.

The fore and main-top and top-gallant-yards are shown lowered on to their respective caps, and are then said to be

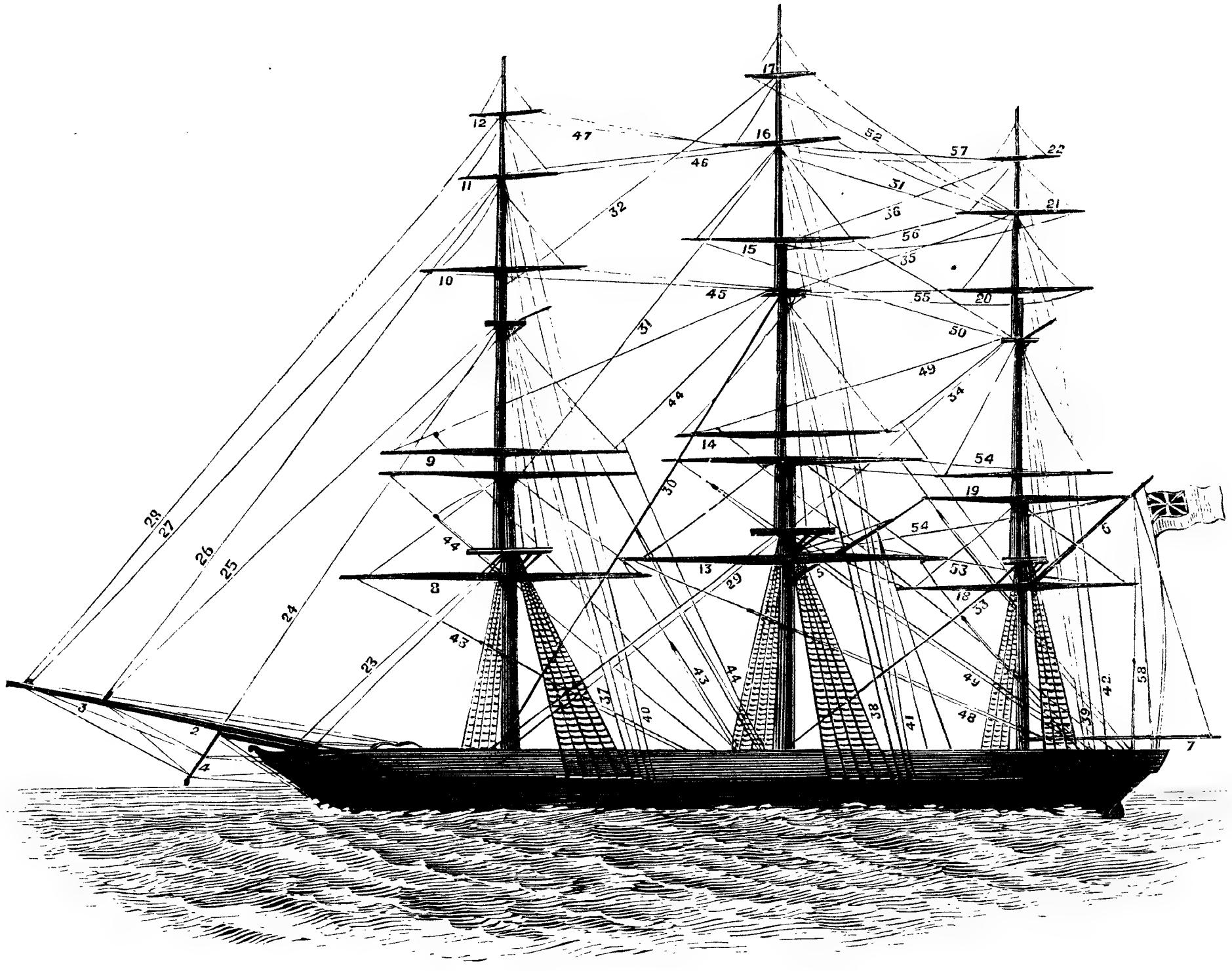


DIAGRAM OF RIGGING.

hanging in the lifts, which are seen drawn tight (or taut, to use a sailor's term).

The mizen-top and top-gallant-yards are shown set up to their respective mast-heads, and are held by the halliards; in which case the lifts hang slack, as shown. The stunsail booms are drawn on the fore and main-yards only, but they are set in the same manner on all the other yards. The royals have all stays and shrouds, and sometimes cross-trees, similar to the topmast cross-trees; these are called the top-gallant cross-trees.

In contrast to the rigging of 120-gun ship when Grandpa was at sea, I here give you a diagram of a modern ship with

REFERENCE.—1 Bowsprit, 2 Jib-boom, 3 Flying Jib-boom, 4 Martingale, 5 Main Try-sail Gaff, 6 Spanker Gaff, 7 Spanker Boom, 8 Fore-yard, 9 Fore Top-sail-yards, 10 Fore T'gallant-yard, 11 Fore Royal-yard, 12 Fore Sky-sail-yard, 13 Main-yard, 14 Main Top-sail-yards, 15 Main T'gallant-yard, 16 Main Royal-yard, 17 Main Sky-sail-yard, 18 Cro'jack-yard, 19 Mizen Top-sail-yards, 20 Mizen T'gallant-yard, 21 Mizen Royal-yard, 22 Mizen Sky-sail-yard, 23 Fore-stays, 24 Fore Top-mast Stay, 25 Jib Stay, 26 Fore T'gallant Stay, 27 Flying Jib Stay, 28 Fore-Royal Stay, 29 Main Stays, 30 Main Topmast Stay, 31 Main T'gallant Stay, 32 Main Royal Stay, 33 Mizen Stay, 34 Mizen Top-mast Stay, 35 Mizen T'gallant Stay, 36 Mizen Royal Stay, 37, 38, 39 Fore, Main, and Mizen Top-mast Backstays, 40, 41, 42, Fore, Main and Mizen T'gallant, and Royal Back-stays, 43 Fore Braces, 44 Fore Top-sail Braces, 45 Fore T'gallant Braces, 46 Fore Royal Braces, 47 Fore Sky-sail Braces, 48 Main Braces, 49 Main Top-sail Braces, 50 Main T'gallant Braces, 51 Main Royal Braces, 52 Main Sky-sail Braces, 53 Cro'jack Braces, 54 Mizen Top-sail Braces, 55 Mizen T'gallant Braces, 56 Mizen Royal Braces, 57 Mizen Sky-sail Braces, 58 Spanker Vangs.

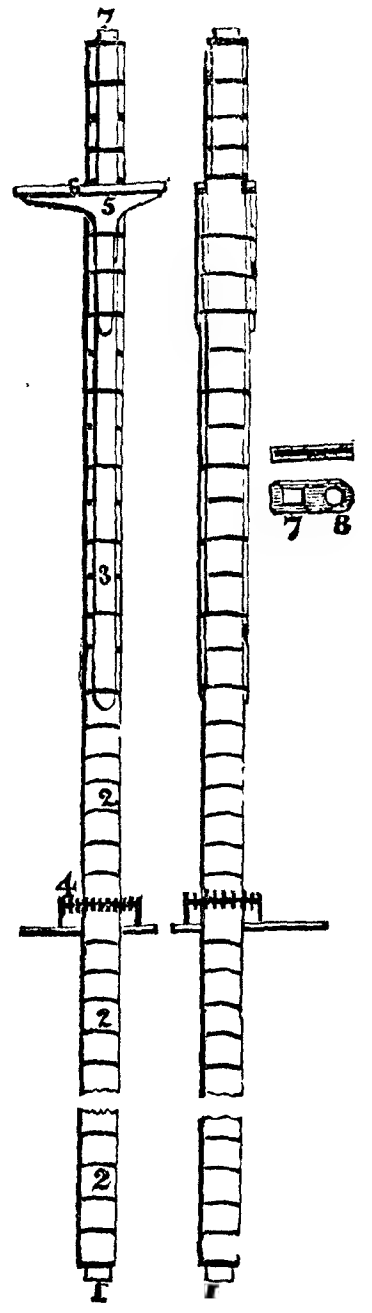
CHAPTER IV.

Description of a mast—A topmast—How it is hoisted—The main-truck, or the leap for life—The top-gallant-mast—Royal and sky-sail masts—Method of supporting the masts—The shrouds—The channels—The knight-heads—The ratlines—Tackles—The bowsprit—The jib-boom—The danger of a ship, if any accident happens to her bowsprit.

I TRUST the general description I have given of a ship, and the principal parts of her rigging, has not been lost on my readers: if they have been as much interested in reading as I have been in writing it, they will be better prepared to listen or read with interest a description of the manner in which the different parts are put together, and the names of those different parts. It is of the greatest importance that these be composed of the very best materials and workmanship, to enable the ship to withstand the enormous strain she is subjected to. I will now commence with the masts.

A mast is composed of several pieces of timber, which are worked to fit close, and then bound together by stout

iron hoops, driven on whilst hot; as the metal in cooling contracts considerably, and thus compresses the pieces of timber closer together.



The explanation of the figures in the diagram is as follows:—No. 1 is the heel or step of the mast (fixed on the kelson); 2, the mast; 3, the woldings (stout timbers placed on each side of the mast to strengthen it, and likewise bound with iron hoops); 4, the bits and belaying pins, placed around the mast a little above the deck, with uprights supporting them from the deck: these are for the purpose of fixing or fastening (belaying is the sea phrase) some portions of the running rigging, such as the rolling tackles, the halliards, the clue-lines, &c.; 5, the chocks (timbers to support the trussel-trees); 6, the trussel-trees, which form a base for the framework of the round-top; 7, the head of the mast, shown square to receive the cap.

The cap is drawn on its side, in order to show the square hole, 7, which fits the head of the mast, and the round hole, 8, through which the topmast is to slide up and down. The figure above it shows the edge of the cap as it would appear fixed in its place.

The other figure represents a front view of the mast, showing the edge of the woldings on each side of it.

An alteration in the vertical position of the masts, will materially affect the sailing of a vessel. To allow this alteration to be made without disturbing the rigging, the holes in the decks are made larger than the masts, and the spaces filled up by wedges driven tight all round it: the mast may, therefore, be inclined either to the fore or after part of the ship, as the case may require, by altering these wedges. If the head of the mast inclined much off the perpendicular towards the stern, the sea phrase would be, " the mast rakes very much aft;" and when perfectly upright, or a little inclining to the bow, the mast would be said to be upright, or to have a forward rake.

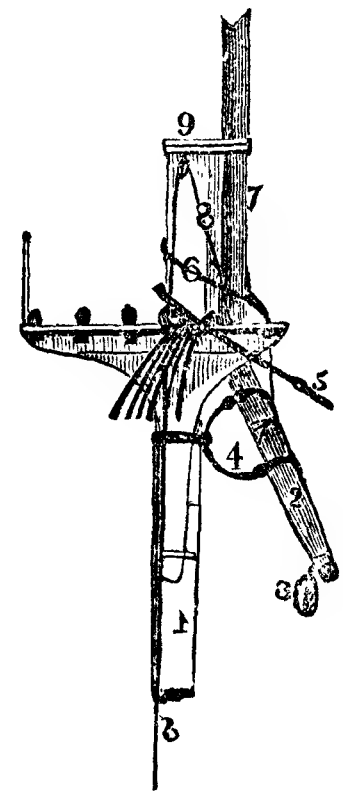
Very lofty masts are said to be " very taunt."

When a ship has her top-gallant, royal, and sky-sail-masts aloft, she is said to be " rigged all-a-taunt-o."

If a sailor, in speaking of a ship, says, " she has very

square yards," he means that she has very long ones; the term square having no reference to the form of the yard, which is actually a round spar.

A topmast is hoisted in the following manner; which will be described by the accompanying figure, in which No. 1 is the lower mast. A rope, 8, called the mast-rope, is passed from the deck up the side of the mast, and through a block under the cap, 9, then through the hole in the top (which receives the head of the topmast) whence it is lowered and passed through a sheave at the heel or end of the topmast resting on the deck, and conducted up the opposite side of the mast, and fixed to an eye-bolt under the cap, directly opposite to the block. It is then hove (hauled) up to its place, either by men stationed on the deck, or by the capstan; and is prevented from sliding down again, by the fids, which are pieces of wood or iron, passed through the hole near the lower end of the topmast, 7, and resting on the round-top. The mast-rope is then unrove, and put in store till required again. The topmast passes through



TOPMAST AND YARD.

the round hole in the cap before mentioned, and is secured by strong ropes or shrouds fixed to the rim or outer edge of the cap, and by back-stays leading to the sides of the ship, abaft the rigging of their respective shrouds.

The topmast, though much smaller than the mast, is a very large spar, and the lower part is generally framed together. On the head of the topmast is also a cap, and a little below it are the topmast cross-trees, to receive the top-gallant-mast, which is hoisted and secured similar to a topmast. On the top of the top-gallant-mast is the truck, in which are sheaves, to admit a rope or halliard, for hoisting a flag or pennant. When royals are hoisted, the truck is removed, and a cap and cross-trees fixed, called the top-gallant cross-trees, through which the royal-mast is hoisted. Sometimes the royal and sky-sail masts are all in one, and set without cross-trees; the heel of the royal-mast is then lashed to the top-gallant-mast.

The following circumstance, mentioned in Captain Basil Hall's works, occurred on board a frigate lying at anchor at a port of general rendezvous, and place of refitting, for our squadrons in the Mediterranean:—

THE MAIN-TRUCK, OR THE LEAP FOR LIFE.

The frigate requiring repairs, we dismantled the ship completely, broke out all her stores, and, indeed, gave her a complete overhaul.

Many hands make light work; and in a few days we had made everything ship-shape again. And to make her look taunt, we had set up very long royal and sky-sail poles, that gave the ship a very dashy appearance.

The water of this beautiful inlet, which, though it makes about four miles inland, is not much more than a quarter of a mile in width, is seldom ruffled by a storm; and, on the delightful afternoon to which I now refer, lay as still and unbroken as a mirror, except when disturbed by the paddles of some passing waterman.

What little wind there had been in the fore part of the day, died away at noon; and, though the first dog-watch was almost out (that is, it was nearly six o'clock), and the sun near the horizon, not a breath of air had risen to disturb the deep serenity of the scene. A Dutch liner (line-of-battle ship), which lay in the bay, not far from us, was so clearly reflected in the glassy surface of the water, that there was not a rope about her, from her main-stay to her

signal halliards, which the eye could not distinctly trace in her shadowy and inverted image.

A small polacca craft had got under weigh, intending to stand over to the coast of Spain; but it fell dead calm just before she reached the mouth of the harbour, and there she lay as motionless upon the dark blue surface, as if she had been only part of a mimic scene from the pencil of an accomplished painter. Her broad lateen sails, as they hung drooping from the slanting and taper yards, shone with a glistening whiteness, that contrasted beautifully with the dark flood in which they were reflected. The walls of the various buildings lay, some in shadow, and others were lit up by the sun, till they shone like silver. On the opposite side, the ruins of a fort dimly seen, made up the picture.

On board our vessel unusual stillness prevailed. The spar-deck (in the waist) was almost deserted. The quarter-master of the watch, with his spy-glass in his hand, and dressed in a frock and trousers of snowy whiteness, stood aft on the taffrail, motionless as a statue, keeping the usual look out. Some sailors were lounging under the shade of the bulwarks, on the fo'castle and along the gangway, and all variously employed.

On the top of the boom-cover (also in the waist), in the full glare of the level sun, lay Black Jake, the jig-maker of the ship, his flat nose dilated to unusual width, and his ebony cheeks fairly glistening with delight, as he looked up at the gambols of a large monkey, which, clinging to the main-stay, just above Jake's woolly head, was chattering and grinning back at the negro, as if there existed some means of mutual intelligence between them.

Just at that moment a shout and a merry laugh burst upon my ear ; and looking round, to ascertain the cause of a sound so unusual on a frigate's deck, I saw little Bob Stay (as we called the Commodore's son) standing halfway up the main-hatch ladder, clapping his hands, and looking aloft at some object which seemed to inspire him with much glee.

A single glance upwards informed me as to the cause, He had been coming up from the gun-deck, when Jocko dropped suddenly down, and running along the boom-cover, leaped upon Bob's shoulders, seized his cap from his head, and immediately darted up the main-topsail-sheet, and thence to the bunt (middle) of the main-yard, where he sat picking out the threads from the tassel of his prize, and occasionally scratching his side and chattering,

as if with exultation at the success of his mischief. But Bob was an active sprightly little fellow, and though he could not climb quite as nimbly as a monkey, yet he had no mind to lose his cap without an effort to regain it.

"Ha! you rascal Jocko," exclaimed Jake; "hab you no more respec' for de young officer den to steal him cab? We bring you to gangway, you black nigger, and gib you a dozen on de bare back for a tief."

The monkey looked down from his perch, as if he understood the threat, and grinned a sort of defiance in reply.

"Ha, ha! Massa Stay, he say you mus' ketch him 'fore you flog him; and it no so easy for midshipman in boots to ketch monkey bare-foot."

A red spot mounted to little Bob's cheek, as he cast one glance of offended pride at Jake, and then sprang across the deck to the Jacob's ladder (a small ladder suspended from each rigging, inside the bulwarks, to enable the men to reach them).

In an instant he was half way up the rigging, running over the ratlines as lightly as if they were an easy flight of stairs, whilst the shrouds scarcely quivered beneath his elastic motion. In a second more his hand was on the futtocks.

"Massa Stay," cried Jake, who, being a favourite, sometimes ventured to take liberties with the younger officers; "Massa Stay, you best crawl through de lubber's hole: it take a sailor to climb de futtock shroud."

But he had scarcely time to utter his pretended caution before Bob was in the top.

The monkey waited his approach until he got nearly up the rigging, when it suddenly put the cap on its own head, and, running along the yard to the opposite side of the top, sprang up a rope, and thence on to the topmast backstay, up to the topmast cross-trees, where it again quietly seated itself, and resumed its work of picking the tassel to pieces.

By this kind of manœuvring, the animal enticed little Bob up to the royal-mast head, when, springing suddenly on to the royal-stay, it ran nimbly down to the fore-to'-gallant-mast-head, thence to the fore-top, and out to the end of the yard, when he hung the cap upon the stunsail boom iron, chattering as if in exultation.

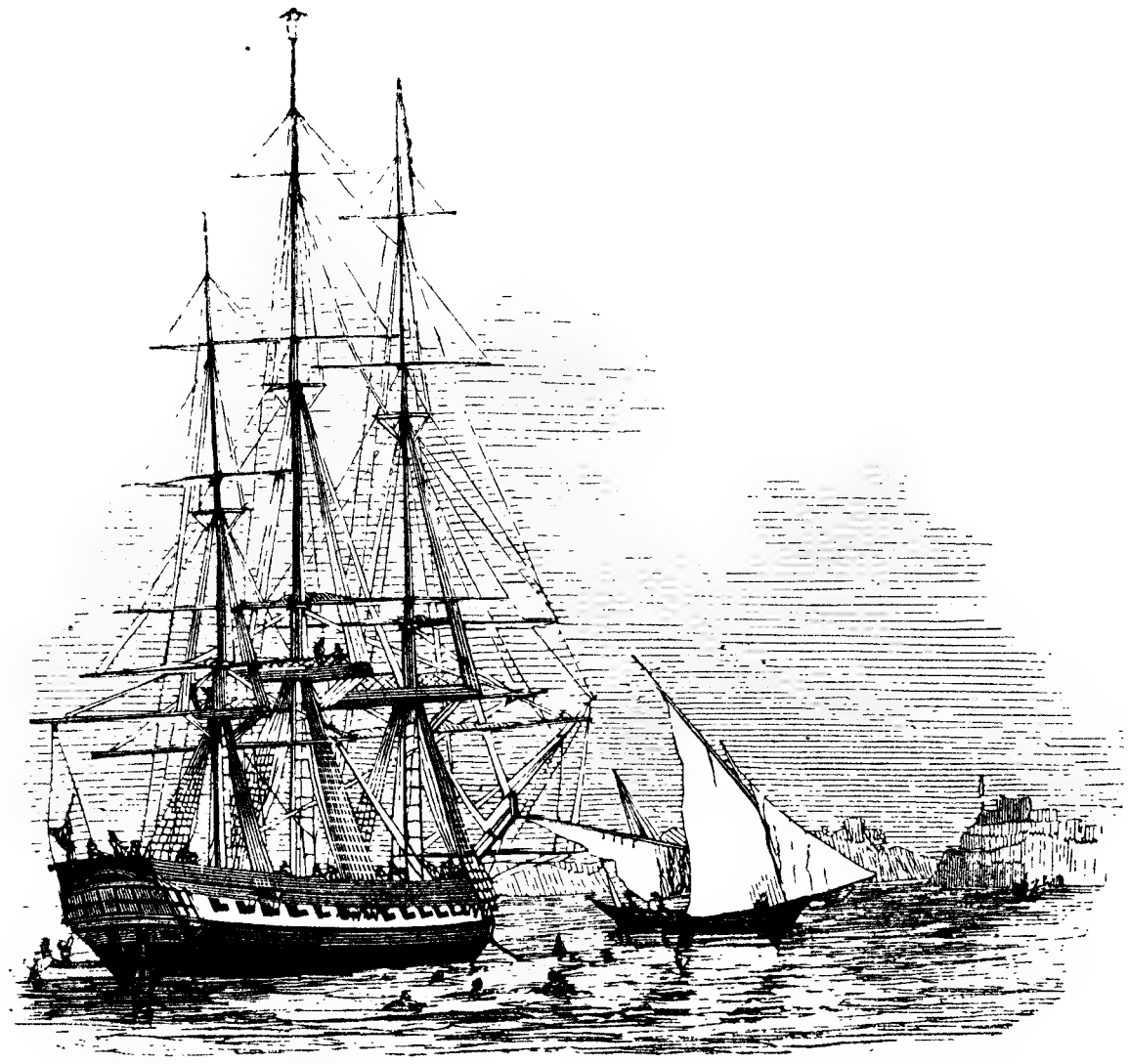
Bob, who by this time was completely tired out with his exertions, sat down on the royal cross-trees, while those who had been attracted by the sport, resumed their usual occupations or amusements.

The monkey, no longer the object of pursuit, soon took up the cap, returned in towards the slings (at the middle of the yard), and dropped it upon deck.

Some little piece of duty occurred at this moment to engage me for a few minutes, and, as soon as it was performed, I walked aft, thinking no more of the circumstance, when I was aroused by a cry from Black Jake.

"Look, look! Massa Scupper," cried he; "Massa Stay is on de main truck."

A cold shudder ran through my veins at the word. I cast my eyes up—it was too true. The adventurous boy, after resting himself, had taken the whim of climbing the sky-sail pole, and was actually standing on the main-truck! It was comparatively easy to ascend; but to descend—my head swam round, and my stomach felt sick, at the thought of the perils comprised in that one word. There was nothing above him or around him but empty air, and beneath him a mere point—a small unstable wheel. If he should attempt to stoop, what could he lay hold of to steady his descent? What was to be done? To hail him, and inform him of his danger, would be but to insure his destruction. Every moment I expected the fatal catastrophe. I could not bear to look at him, and yet could not with-



THE MAIN TRUCK; OR, THE LEAP FOR LIFE.

p. 52.

draw my gaze. The intelligence of poor Bob's temerity had spread through the ship like wildfire, and the officers and crew were all crowding to the deck. Every one, as he looked up, turned pale: no one made any suggestion—no one spoke. Every feeling, every faculty, seemed absorbed and swallowed up in one deep, intense emotion of agony. Once the first lieutenant seized the trumpet, as if to hail poor Bob; but he had scarcely raised it to his lips, when his arm dropped again, and sunk listlessly down beside him, as if from sad consciousness of the inutility of what he had been going to say. Every soul in the ship was now on the spar-deck (in the waist), and every eye was fixed on the main truck.

At that moment there was a stir among the crew about the gangway; and directly after, another face was added to those on the quarter-deck: it was the commodore, Bob's father.

He had come alongside in a shore-boat, without having been noticed by a single eye, so intense and universal was the interest that had fastened every gaze upon the spot where poor Bob stood trembling, on the awful verge of fate.

The commodore asked not a question, uttered not a syl-

lable. He was a dark-faced, austere man; and it was thought by some of the midshipmen that he entertained but little affection for his son. However that might have been, it is certain that he treated him with precisely the same strict discipline that he maintained towards the other young officers; or, if there was any difference at all, it was not in favour of Bob. Some, who pretended to have studied his character closely, affirmed, that he loved his boy too well to spoil him; and that, intending him for the arduous profession in which he had himself risen to fame and eminence, he thought it would be of service to him to experience some of its privations and hardships at the outset.

The arrival of the commodore changed the direction of several eyes, which turned on him, to trace what emotion the danger of his son would occasion. But their scrutiny was foiled. By no outward sign did he show what was passing within. His eye still retained its severe expression, his brow the slight frown which it usually wore, and his lip its haughty curl. Immediately on reaching the deck, he had ordered a marine to hand him a musket; and with this, stepping aft, and getting on the look-out block, at the taffrail, he raised it to his shoulder, and took a de-

liberate aim at his son, at the same time hailing him, without a trumpet, in his voice of thunder—" Robert," cried he, " jump! jump overboard! or I'll fire at you."

The boy seemed to hesitate; and it was plain that he was tottering, for his arms were thrown out like those of one scarcely able to retain his balance. The commodore raised his voice again, and, in a quicker and more energetic tone, cried, " Jump! 'tis your only chance for life."

The words were scarcely out of his mouth, before the boy was seen to leave the truck, and spring out into the air. A sound, between a shriek and a groan, burst from many lips. The father spoke not, sighed not—indeed he did not seem to breathe. For a moment, of intense interest, a pin might have been heard to drop on deck. With a rush like that of a cannon-ball, the body descended to the water; and before the waves closed over it, twenty stout fellows, among them several officers, had dived from the bulwarks. Another short period of anxious suspense ensued. He rose—he was alive! His arms were seen to move!—he struck out towards the ship!—and, despite the discipline of a man-of-war, three loud huzzas, an outburst of unfeigned and unrestrainable joy from the hearts of our

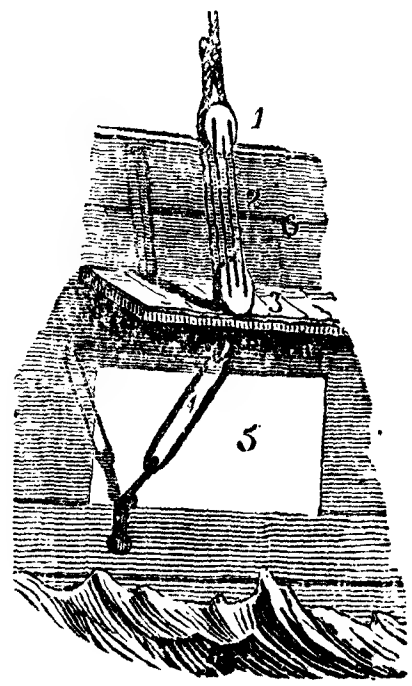
crew of five hundred men, pealed through the air, and made the welkin ring.

Till this moment the old commodore had stood unmoved. The eyes that, glistening with joy, now sought his face, saw that it was ashy pale. He attempted to descend the look-out block, but his knees bent under him: he seemed to gasp for breath, and put up his hand, as if to tear open his vest; but, before he accomplished his object, he staggered forward, and would have fallen on the deck, had he not been caught by old Black Jake. He was borne into his cabin, where the surgeon attended him, whose utmost skill was required to restore his mind to its usual equability and self-command, in which he at last happily succeeded. As soon as he recovered from the dreadful shock, he sent for Bob, and had a long confidential conference with him; and it was noticed, when the little fellow left the cabin, that he was in tears.

The next day we sent down our taunt and dashy poles, and replaced them with the stump-to'-gallant-masts; and on the third, we weighed anchor, and made sail for Gibraltar.

And now to return to our subject:—

The main and foremasts are supported each by ten or twelve large ropes on either side, called the shrouds, and the mizen by six or eight, which are put on in pairs, a pair on each side, alternately. The shrouds, being first made the proper length, are doubled, and a loop or space, of sufficient dimensions to pass over the head of the mast, is made on the middle part, by lashing or serving it round with small ropes, or spunyarn. At the ends are fixed dead-eyes (circular blocks with three holes in each). On the outside of the ship are projecting boards, called channels, or, in the sea phrase, "the chains." On the outer edge of the channels are fixed dead-eyes, similar to those in the ends of the shrouds. A small rope, called a lanyard, is then rove through both, and drawn taut (tight), when the shroud appears as shown in this drawing; in which No. 1 is placed to the dead-eye at the end of the shroud; 2, at the lanyard; 3, on the channel; 4, on the chain plate firmly attached to the side of the ship, 5, and to the bend (ring) of iron, which holds the dead-eye, and comes through the channel itself; 6, is on the ship's bulwarks.



The ratlines, or rattlings, are small ropes worked across the shrouds, to form a kind of step-ladder, by which the seamen can go aloft.

A rope is said to be rove, when it is passed through a block, whether single or double, where it works freely with the sheave or sheaves in the centre, and is ready for use.

Fig. 1. Fig. 2.

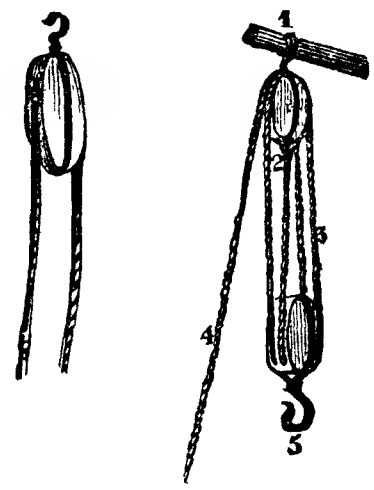
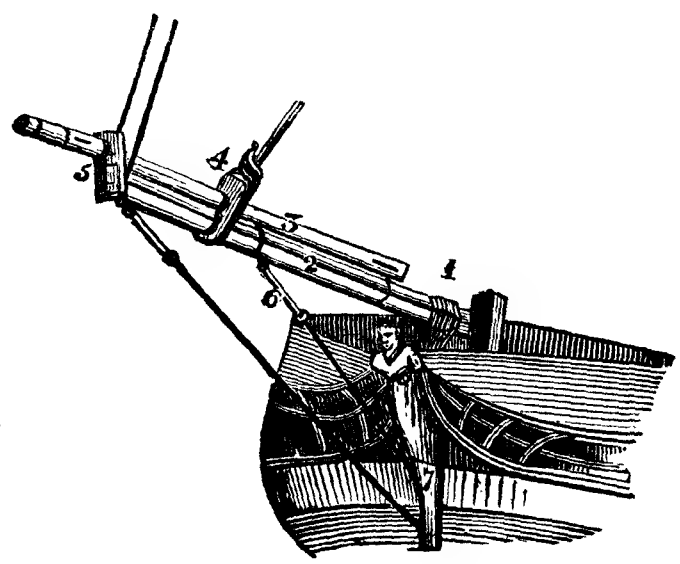


Fig. 1 represents a single sheave block with the rope rove through it; and fig. 2 is two double blocks, such as are used for boat-tackles, &c. (hoisting and lowering boats). No. 1 is a spar to which one block may be attached, by a piece of rope or a strap passing round it; 2 is the rope made fast to the under part of the block, and called the standing part; 3 is the rope passed through each block, alternately; 4 is the fall, or that part which is pulled by the men, in order to raise a weight which may be attached to the hook, 5, under the lower block. The part of the rope between the two blocks is sometimes called the bight.

Having now described the method of fixing the shrouds, both to the top of the mast and to the sides of the vessel,

which form supports for the masts in this position (namely, across the ship), I will now describe the fore and aft supports, which mainly depend upon the bowsprit, as my readers will see clearly if they follow me through this description. I will, therefore, give a few particulars respecting the bowsprit.

The heel or step of the bowsprit is fixed to strong timbers or stanchions, either on the lower or the main deck, and passes between strong timbers in the head, called the knightheads. It is secured by rope or chain lashings passed round it, and through holes in the knee of the head, which is called the gammoning. It is further secured by one or two strong ropes or chains, called bobstays.



Explanation of the figure. No. 1, the gammoning; 2, the bowsprit; 3, the jib-boom; 4, the end or heart of the forestay; 5, the cap; 6, the bobstays; one fixed near the heart of the forestay, and the other under the cap, and both to the ship's stem or cutwater, 7, and hove

taut (pulled tight), in a similar way to the shrouds, by lanyards.

Two or more ropes, called shrouds or guys, lead from the end or cap of the bowsprit, and are fixed on each side the bows of the ship. The jib-boom, as well as the bowsprit, are round spars, the latter being composed of several pieces framed together like a mast. The jib-boom passes through the heart of the forestay and the cap, and is secured by a fid, similar to a topmast, and is farther supported by guys (ropes) passing from the end, through the ends of the spritsail-yard, and fixed to the head of the ship, as shown in the diagram of rigging (which see at p. 38).

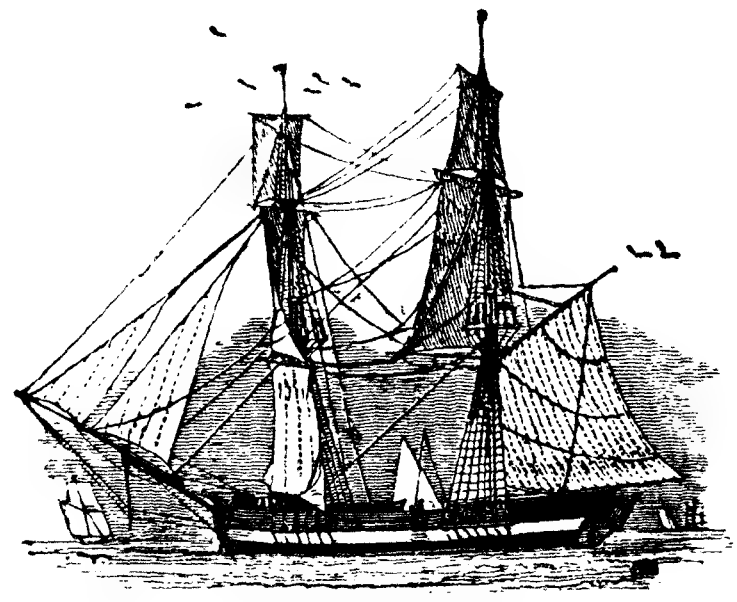
To the bowsprit and jib-boom are fixed the ends of the forestay, the fore-topmast-stay, jib-stay, &c.; these are essential supports for the foremast; for, if any accident happened to the bowsprit, the fore-topmast would be in danger of falling· and, for this reason:—suppose the bowsprit to be broken off (or, as sailors say, "carried away") just without the gammoning; the foremast instantly loses the support of the forestay, the fore-topmast of its stay, and the fore-top-gallant-mast of its stay also, as these were fixed to the bowsprit and jib-boom. The fore-

topmast with all its gear (spars or yards, sails, and rigging) is sure to be carried away, if the foremast does not go altogether; and as the main-top-gallant-mast is stayed to the fore-topmast, in a similar way, it is likely to share the same fate.

Now, as such an accident as I have mentioned does not often occur but in tempestuous weather, when one ship may run foul of another, and thus create the injury; a ship so circumstanced is in the greatest possible danger; for, if the foremast goes over the side, the main-topmast with all its gear follows, and with it is carried away the mizen-top-gallant-mast. But perhaps it might have been necessary before this to cut away the mizen-mast, in order to wear the ship. She will, consequently, have nothing but the mainmast standing, and would be like a log on the water, and entirely at the mercy of the winds and waves.

Although every part of the ship's framework may be sound and perfect when the accident happened, it would not long remain so; as she would roll, and strain her timbers most tremendously, and in all probability spring a leak, if not several. In such a case, no time should be lost in getting up a large spar, in the place of the foremast (called a jury-mast), upon which a sail may be

hoisted, to set the ship before the wind. But, as I shall have occasion to describe a case, in one of my voyages, wherein jury-masts were required, I will not now go farther into the subject, but return to the descriptions.



CHAPTER V.

The fore-stay—The round-tops, and their uses—Description of the mizen-top—The cross-trees—Method of hoisting the lower yards—The Prince of Wales going to sea—Her sails described.

IF you have followed my description carefully, you will know a great deal more about a ship and her rigging than it was possible for any youngster to know when I was one, unless they resided in a seaport. I have said that the heart of the fore-stay is fixed to the bowsprit; the other end is carried to the head of the foremast, and passed round it, in the form of a loop, called a crowfoot, resting on the top of the shrouds, at the round-top. There are three tops, called the fore, main, and mizen-tops, respectively.

The round-top is a strong framework of timber, projecting considerably (in proportion to the size of the vessel) from the mast, of which the trussel-trees before mentioned form the base. Its use is for spreading the

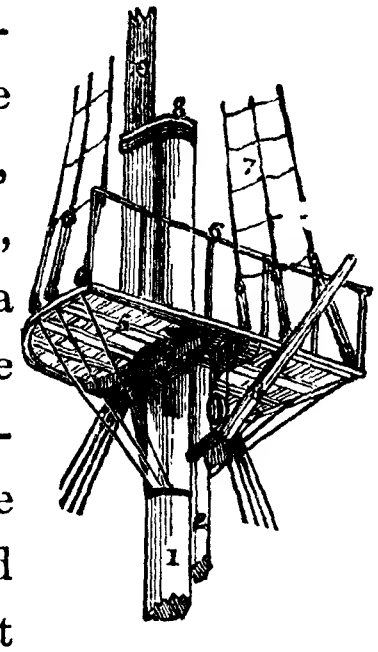
topmast rigging. The tops are the particular stations of some of the best seamen in the ship, who are called captains of the tops; in a first-rate there are three to each.

In engagements, the tops are frequently used as stations for the marines, who fire from them upon the enemy's decks.

It was from the main-top of the Bucentaur (a French ship), at the battle of Trafalgar, in October, 1805, that the heroic Nelson received his death-wound.

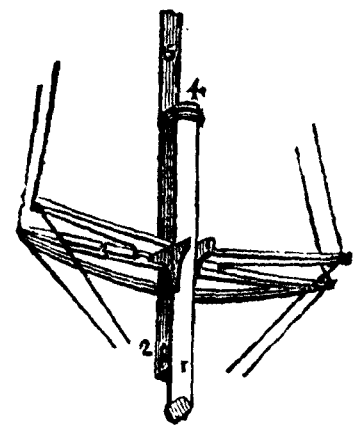
It is also in the tops, and on the lower and top-gallant yards of the fore and mainmasts, two to each, that the look-out men are placed; and when the young middies (midshipmen) have got into disgrace, it is here, or to the cross-trees above, they are sent for punishment, when commanded to go to the mast-head, and wait until the officer whom they have offended sends for them. Here the mids very frequently take a long snooze; they are not liable to fall off whilst asleep, as there are nettings all round it, and they know how to keep themselves warm in cold weather by wrapping themselves in a spare sail. The round-top in a first-rate is very capacious, and will contain forty or fifty men. The topmast shrouds are fixed to the edge or rim of the top as before stated, and

from the places where they are fixed are other short shrouds, called futtock or catharpin shrouds, which are either fixed on to the lower rigging, or passed through it, and attached to the mast itself.



This drawing represents the mizen-top. No. 1, the mizenmast; 2, the trysail-mast; 3, the gaff (in the two last, the mizen differs from the other masts, on account of a different sail called a spanker, being hoisted here, as will be hereafter explained); 4, the trussel-trees; 5, the top; 6, the top-rail (the space between this and the rim, is netted or canvassed across); 7, the topmast shrouds and ratlines; 8, the cap, and 9, the topmast.

The trysail-mast is a round spar, set up at the after side of the mizen, for the end of the gaff, which is hollowed out with what are called jaws to fit it, to slide up and down upon.

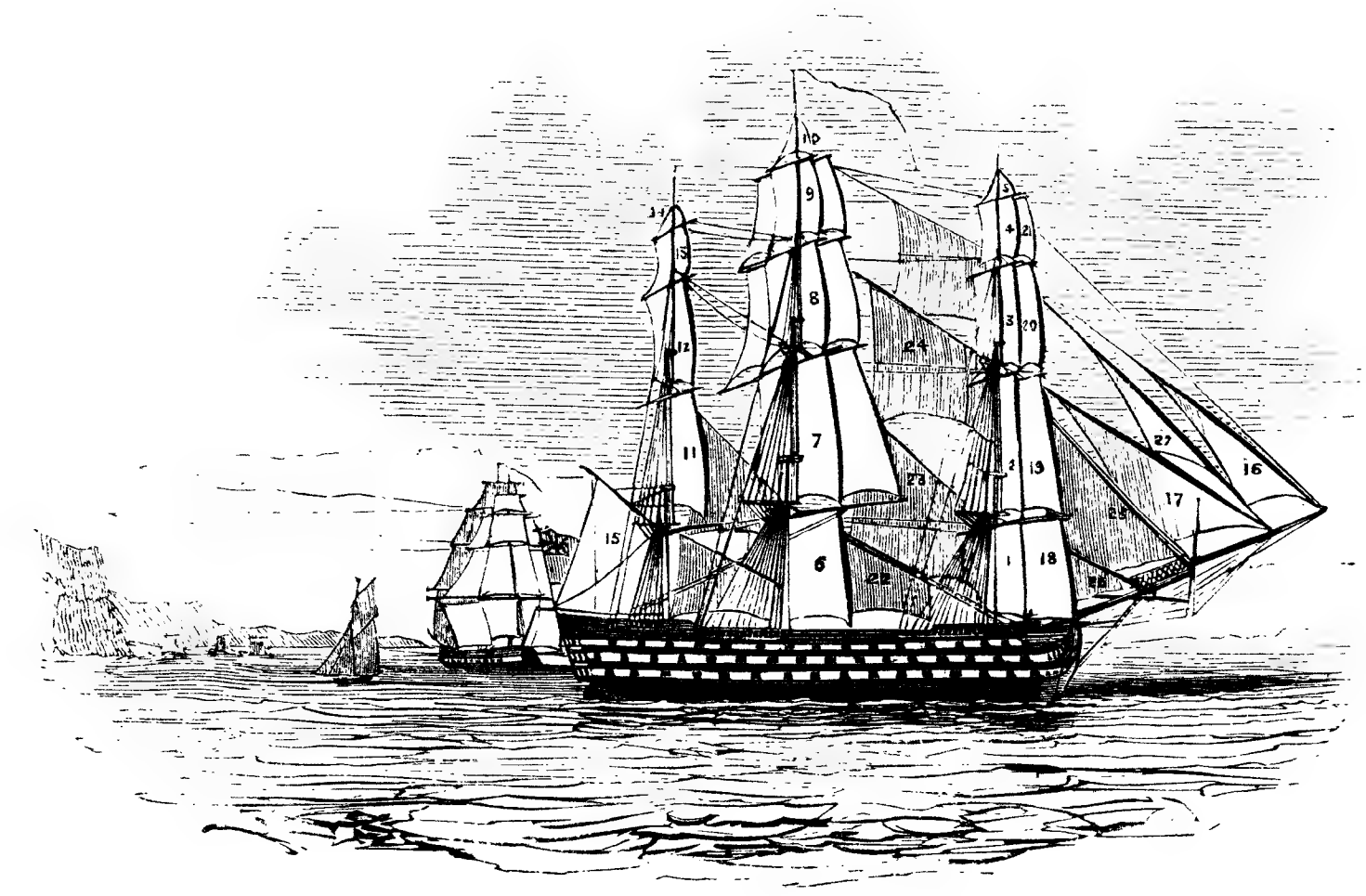


The annexed sketch is a representation of the cross-trees; in which No. 1 is the topmast; 2, the fid-hole of the top-gallant-mast; 3, the cross-trees; 4,

the cap; 5, the top-gallant-mast; and 6, the trussel-trees under the cross-trees. The top-gallant-masts are supported by shrouds, similar to the other masts, with this exception, they have no ratlines; and when the men have to get above this rigging, they climb up by the shrouds, or any rope that may be near them. This Jack would call "shinning aloft, hand over hand." You may rely upon it, it is easier to come down than to get up by such means, particularly without a little practice.

The lower yards are hoisted by the jears, very strong tackle, the fall of which is brought down to a capstan on the quarter-deck, and there hove upon, until the yard is in its place, where it is held by the slings and the truss (a double-jointed support of iron, which admits the yard to be braced fore and aft; or, to be raised perpendicular, when it is said to be topped up and down). The semicircular form of the truss, as denoted at figure 4, in the drawing attached to the description of the topmast (page 45), is adapted to allow the topmast to slide up and down through it, as occasion may require.

When the yard is fixed in its place, the jear-tackles are belayed to the bits on the mast, and when at sea are unrove and stowed away.



PRINCE OF WALES PASSING THE NEEDLES.

p. 67.

Most of the heavy spars are raised aloft by the jear-tackles and the capstan.

The ropes at each end of all the yards, leading in a fore-and-aft direction, are called braces; it is by the braces that the yards are moved either to starboard or to port. Each has a separate name, applying to the yard to which it is fixed: thus; those to the fore-yard are called the fore-braces, and those to the main-yard, are the main-braces, and so on.

Those ropes, also, at each end of the different yards, which lead to the caps of the respective masts to which the yards are attached, are called lifts, and are designated in a similar way to the braces: as, the main-yard lifts, main-topsail lifts, fore-yard lifts, &c.

It is now time that we should hoist the ship's sails, and then she is ready to be unmoored to proceed to sea. It is necessary that my young readers should know the names of the sails. In the next plate, wherein the Prince of Wales is shown passing the Needles on her outward-bound voyage, her sails are all numbered: I will now describe them:—

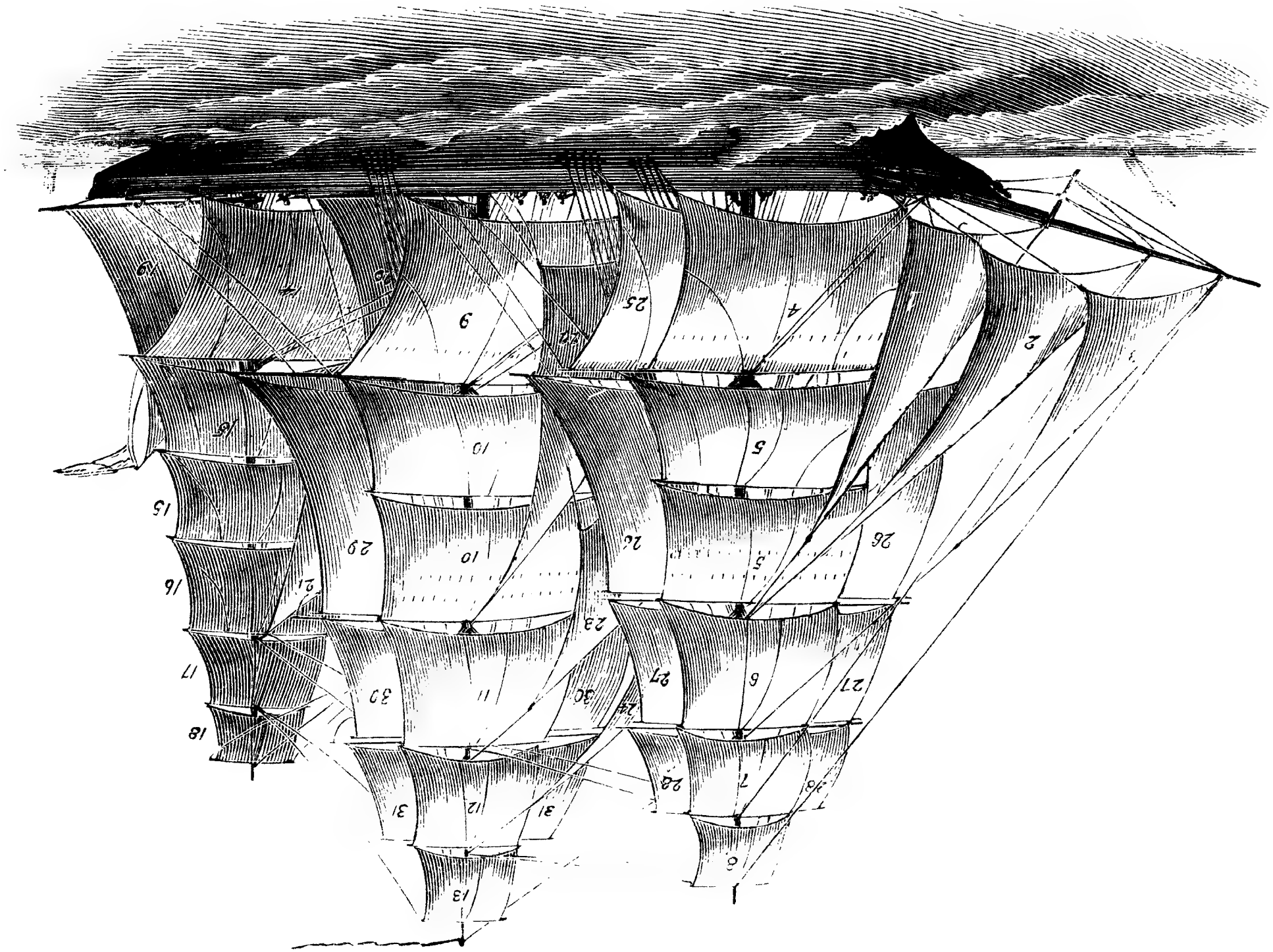
No. 1, is the foresail; 2, the fore-topsail; 3, the fore-top-gallant-sail; 4, the fore-royal; and 5, the fore-sky-

sail. On the mainmast are similar sails, called the main-sail, main-topsail, &c., and numbered respectively 6, 7, 8, 9, and 10.

On the mizen are also similar sails, called the mizen-topsail, mizen-top-gallant-sail, &c., and numbered 11, 12, 13, and 14. Number 15 is the spanker, which is set similar to, and of the same shape as, the main-sail used on board a cutter or sloop, on a boom and gaff. 16, is the flying jib; 17, the jib; 18, the fore-studding-sail, set on the stunsail boom of the foreyard; 19, the fore-topmast studding-sail; 20, the foretop-gallant studding-sail; and 21, the fore-royal studding-sail. The main has similar sails, which are called the main-topmast studding-sails, &c. In the sea phrase, for shortness, these sails are called stunsails. On the opposite ends of all the yards similar sails are set occasionally. No. 22 is the main-stay-sail; 23, the main-topmast stay-sail; 24, the main-top-gallant stay-sail; and the sail above it, is the main-royal stay-sail: and between the main and mizenmasts are the like sails, called mizen stay-sails. No. 25 is the fore-topmast stay-sail; and 26, the fore-stay-sail.

Although the Prince of Wales would not now be considered a formidable ship of war, in her own time she was

SHIP FULLY RIGGED.



in every way efficient, able to cope with the antagonists she was likely to encounter, and to perform the services required of her. Since that time all has been altered, and as I have shewn elsewhere, see Chapter xxv., the war ships of the present day are of quite a different build, and so powerfully armed, that one of them could destroy a fleet of forty ships like the Prince of Wales in twice as many minutes.

Considering the vast improvement that has been made in the rigging and sailing of ships, it would scarcely be fair to my young friends if I were not to show them a large ship of the present time in full sail, with the names of the various sails now in use:—

REFERENCE.—1 Fore Topmast Staysail; 2 Jib; 3 Flying Jib; 4 Foresail; 5 Fore Topsails, upper and lower; 6 Fore T'gallant Sail; 7 Fore Royal; 8 Fore Skysail; 9 Mainsail; 10 Main-topsails, upper and lower; 11 Main T'gallant-sail; 12 Main Royal; 13 Main Skysail; 14 Cro'jack; 15 Mizen Topsails, upper and lower; 16 Mizen T'gallant-sail; 17 Mizen Royal; 18 Mizen Skysail; 19 Spanker; 20 Main Trysail; 21 Mizen T'gallant Staysail; 22 Main Topmast Staysail; 23 Main T'gallant Staysail; 24 Main Royal Staysail; 25 Fore Lower Stun'sail; 26 Fore Topmast Stun'sails; 27 Fore T'gallant Stun'sails; 28 Fore Royal Stun'sail; 29 Main Topmast Stun'sail; 30 Main T'gallant Stun'sails; 31 Main Royal Stun'sails.

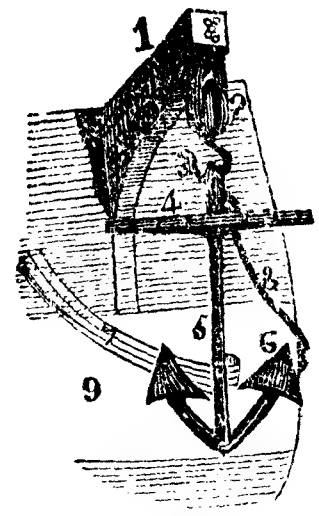
CHAPTER VI.

Contains a description of the anchors—Letting go the anchor—The bits—The stoppers—Weighing the anchor—The messenger, and hauling in the cable—The nippers—The capstan—Cables—Ropes—Chain cables—The Indiaman losing her anchor—The windlass—The anchor fouled—In what manner the anchor holds a ship.

I DO not know if you have ever seen an anchor-smith's forge. It is a most interesting sight. The huge pieces of iron are moved by means of a crane, and many men are employed with sledge-hammers, which they wield with great dexterity, keeping perfect time in their strokes. Large ships have several anchors, of which the best bower and the sheet are the largest, weighing from four and a half to five tons each.

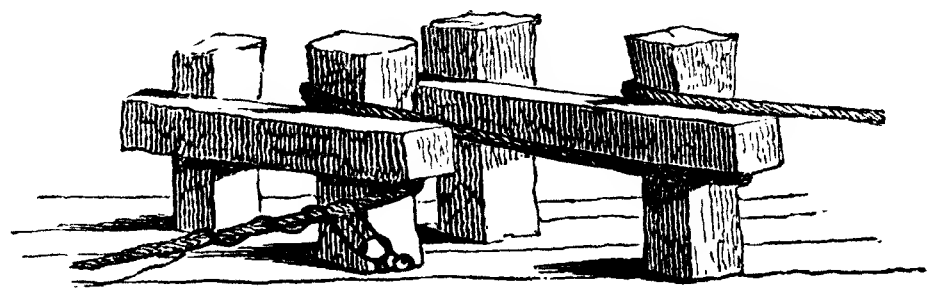
The cathead (No. 1), to which the best bower is hanging, is a very strong beam of timber projecting from the ship's bows, the outward extremity of which is pierced with several slits, in each of which a sheave works, and a rope is rove through them and a corresponding number of sheaves in a large block (No. 2), called the cat-block, to which a large

hook (No. 3), is attached. When the anchor is raised above water, the hook (No. 3) is inserted in the ring; it is then lifted by the tackle up to the cathead, as shown in the annexed sketch, and it is said to hang a "cock-bill;" but when the fish-hook or ropes (No. 7), are passed round the shank (No. 5), and the anchor is drawn up into a horizontal position, along the side of the ship, a chain, called a shank-painter, is passed round it and secured in board; when the anchor is said to be "catted and fished." No. 4 is the anchor stock: 5, the shank; 6, the flukes; 8, the cable; and 9, the ship's side. The best bower and sheet anchors are on the starboard side; the small bower and the stream, on the larboard. When at sea the anchors are stowed at and abaft the fore-rigging. Besides the above, are the kedge and spare anchors, supplied according to the size of the ship, which are stowed below. On the opposite side of the ship, similarly fixed, is another cathead.



When a ship is coming to an anchor, some portion of her sails are taken in before she reaches her anchoring ground, to reduce her way (motion through the water)

gradually, until she stops. When the anchor is let go, the cable runs out with tremendous velocity, and would go much further than necessary, but for contrivances called stoppers, a species of tackle which is made fast to the bits, or elsewhere. (The stopper is shown in the drawing, at the left-hand bit, near the deck.) The stop-

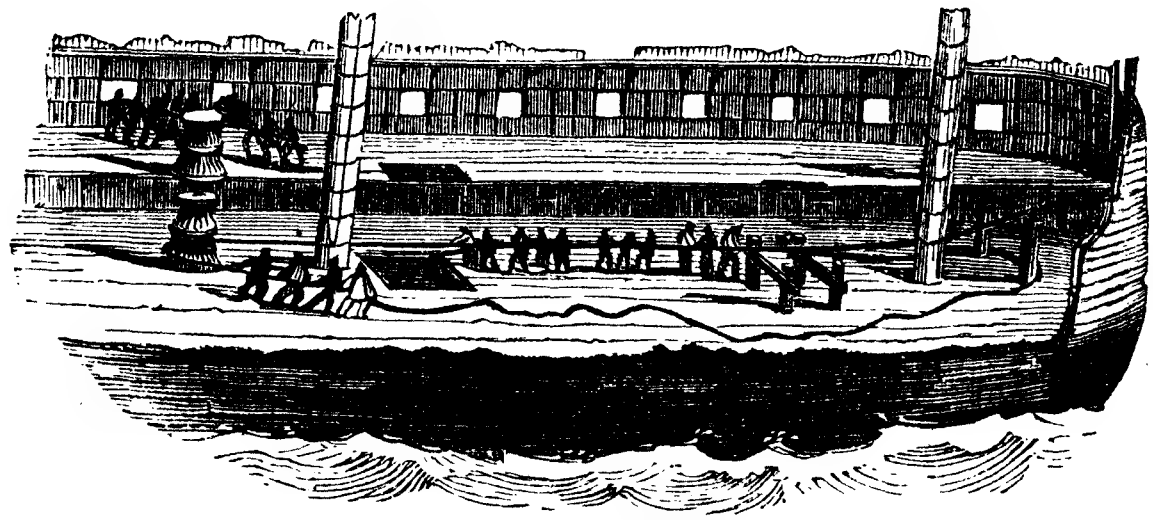


pers are passed round the cable while it is running out, and tightened by men pulling or hauling upon them, so as first to check it, and eventually stop it altogether. The cable is twisted round a very strong timber framing, called the bits, as shown in the drawing.

When it is required to weigh the anchor preparatory to sailing on a voyage, the cable is got in by means of a strong rope called the messenger.

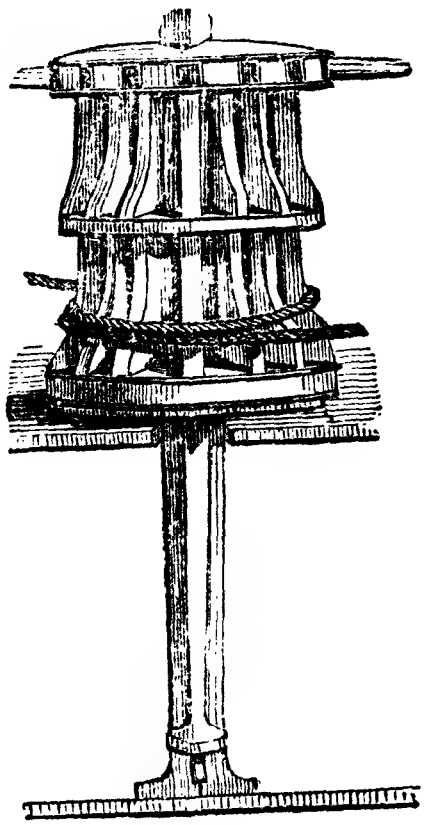
The messenger is an endless rope or hawser, passed two or three times round the capstan, and carried forward through that part of the ship called the manger, where it

travels round strong stanchions upon rollers. It acts in the following manner:—A number of boys are employed to hold several lengths of limp rope called nippers, which are twisted round both cable and messenger by men stationed at the bits upon which the cable passes, effectually preventing the cable from slipping. As the capstan is turned round by the men working on the bars on the deck above (as shown in the drawing), the messenger is kept constantly revolving—the boys holding the nippers, following it as far as the main hatchway, where the cable, as it is drawn in with it, is passed down, and stowed in the



cable tier on the orlop deck. As the boys with each nipper reach the combings (edge) of the hatchway, they instantly uncoil it; and run forward to have it again applied by the men, ready for them to proceed with it, as

soon as the next set of boys, with their nipper, have made room for them. The slack part of the messenger is held on by men, as it is unwound from the capstan, to prevent it slipping back again. By this continued action, the cable is drawn in and coiled down, until the anchor is above water, when it is "catted and fished" as before described.



THE CAPSTAN.

On board large ships, besides the main capstan, are others called the jear capstans, used for lighter work; such as hoisting the lower yards, top-masts, topsail-yards, &c. A capstan is a strong machine, working on pivots, in an upright position. In the holes around the top, called the drum-head, strong bars are inserted, and several men are placed at each, who keep walking round, pushing the bars to the sound of the drum and fife. In large merchant-ships, a fiddler is placed near the capstan, who plays a song tune, the men joining in chorus. The holes of the capstan are frequently made the repositories of some of the sailor's property; such as spare shoes, quids of tobacco, pipes, and a variety of similar articles.

When the cable is passed through the hawse-holes in the bows of the ship, and attached to the ring of the anchor, preparatory to letting it go, it is said to be "bent." Cables are of various sizes, and some are as much as 25 inches in circumference, and are thence called 25-inch cables. These cables are 100 fathoms long, weigh nearly six tons, and are worth more than £400. In a cable of this size, there are upwards of 3240 yarns.

All cables and ropes are designated by their circumference, as a 12-inch, a 7-inch, and a $3\frac{1}{2}$-inch rope, &c.; and the smallest ropes are called lines, of which last signal halliards, &c., are made. Of late years, chain cables have been used instead of the immense ropes above described. They consist of a series of links, thus:  These occupy less room in stowage, and are more easily managed than the cumbrous rope cables, and are of equal, if not greater strength.

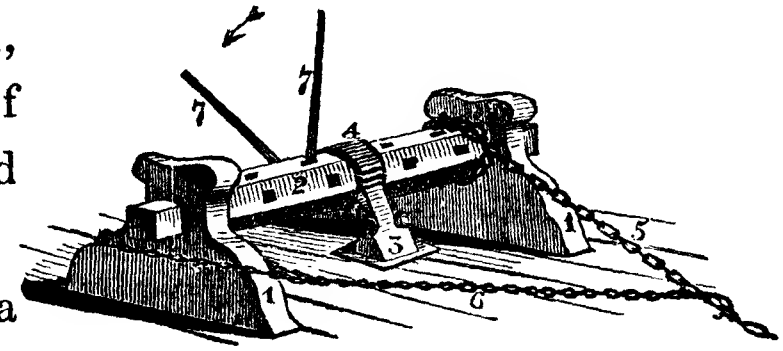
When ships, bound on long voyages, get into blue water—that is, out of soundings—the anchors are stowed in their places, the cables unbent, and the hawse-holes stoppered (plugged up), to prevent the water rushing in, when pitching in a heavy sea.

The reason why a very strong rope, as I have stated, is

used as a messenger for getting the anchor, is, that it has to bear the strain equally with the cable. I recollect an instance which occurred on board a 1400-ton Indiaman; she was a new ship — and, being her first voyage, of course everything on board was new, and of the best quality. She was bound for Calcutta, where she arrived in safety, and anchored off some islands at the bottom of the Bay of Bengal. Shortly after, one of the tremendous gales common to those seas, came on, and the capstan was immediately manned, in order to weigh the anchor: and, as she had troops on board, the soldiers were put into requisition, and as many as 120 men were heaving at the bars, but to no purpose, as the anchor would not start. After a time the messenger broke or parted. The chief officer, who was an old sailor, immediately said to the captain, "We will, if you please, sir, pass the small bower cable for a messenger." It was done, and with the same result; for it parted, from the immense strain, and broke off as clean as if cut with a knife. At the moment this occurred one of the officers was passing close to it; the messenger, in spinning round with the recoil, seized him— whirled him round with frightful velocity, and dragged him forward with it. Every one looked upon him as a dead

man; but, strange as it may appear, with the exception of a few bruises, he was not hurt. They were obliged at last to slip the cable (leaving a buoy to mark the spot), as it was evident the anchor was hooked or fouled with a coral rock; and whether it was afterwards weighed (recovered), I have never ascertained.

In small ships, particularly in the merchant service, instead of the capstan, a windlass is used, of which the annexed drawing is a sketch.



THE WINDLASS.

The windlass is a piece of strong timber, supported from the deck by other strong timbers, called the bits, in which it works freely. The cable is passed round, and drawn in by the windlass (No. 2), as it is forced round by men pulling down the handspikes (No. 7), placed in the holes of the windlass, which are shifted as it is moved round. The arrow shows the direction in which the handspikes are moved. The slack of the cable is held on by men, and stowed away below. The windlass is prevented from running back, whilst the handspikes are changed, by the palls (No. 3), which consist of two or

more leaves of iron, that fall into iron teeth round the windlass, at No. 4. Nos. 1, 1, are the bits; 5, the cable, and 6, the stopper (a short chain fixed round one of the bits; at the end of which is a claw hook, and when sufficient cable has run out, this hook is dropped into one of the links, and prevents its going further.)

The power of the windlass is greater than that of the capstan, which is a reason why it is used in small ships, as they have not many hands; but its operation is not so quick as that of the capstan, from the same cause.

I will give you an instance of its power. In a fine new ship, fitted with a windlass on the most approved principle, it happened, when they wished to weigh the anchor, that it was found to be fouled; and all their efforts to start it were vain. Still the men kept heaving round the windlass; and so great was the purchase upon it, that the ship's bows and almost her figure-head were dragged down into the water; but the anchor remained immoveable. The captain was loath to lose his cable (a chain one) and his best anchor, without every effort possible being made to regain it. He therefore set all hands to work, to remove every portable weight to the after part of the ship, in order to raise her nose (bow) out of the water again; as he could not

have gone on heaving at the windlass without pulling the ship right into the water. When every weight was removed aft, and the vessel brought nearly on a level, he again set the hands to work upon the windlass—when, after a time, the anchor started; the recoil was so great, as to shake everything on board tremendously, "making all grin again," as Jack would say. When the anchor was drawn to the surface, the fluke that had been fouled, was found completely bent back, forming nearly a right-angle with the shank. It was of course useless as an anchor; but the cable being saved, the captain was obliged to be content in having gained thus much. It must have been both a good cable and a good anchor, to stand such a trial.

It is probable some of my readers may say, "I do not exactly understand in what manner the anchor acts, and how so small an object can hold a large body like a first-rate ship of war. I wish Grandpa would tell us in what way this is managed."

Well, I think I will do so, whether they wish it or not; as to some it may be useful, and it is very simple, when understood, as are, indeed, many other matters.

The anchor, as shown in the sketch, has, at the end of

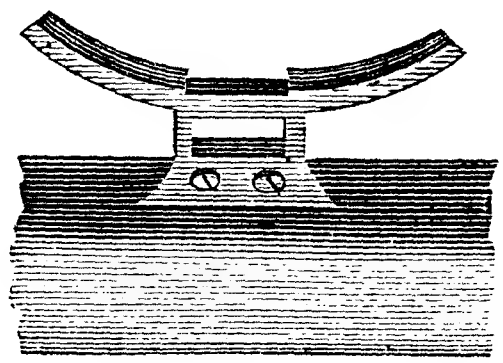
the shank, to which the ring is affixed, a strong beam of timber, called the stock, in which the shank is fixed. This beam is in an opposite direction to the arms and flukes of the anchor; and, with the weight of the cable attached to it, is sure to overbalance that of the arms and flukes, and lie lengthways on the ground: one fluke of the anchor is then pointing into the ground, along which it may be dragged for a short distance by the weight of the cable and the drifting of the ship, but burying itself deeper every moment, until firmly embedded, when it holds the ship.

When heavy gales come on, and the holding ground for the anchor is not good, it will sometimes happen that the ship will drift, notwithstanding she may have two or more anchors out; she is then said to be dragging her moorings, as the anchor is all this time trailing along the ground. If some obstacle be not met with in which the anchor may hold, the ship is certain to be driven on shore, if she be near it, and the wind be in that direction, where she will probably be wrecked.

It is very frequently necessary, in heavy gales, to let out two or more cables, of 100 fathoms each, joined together. This quantity of rope or chain, as the case may be,

acts as a stay to the anchor, by its weight trailing along the ground, and reduces the probability of the anchor's starting. This would be called "veering out cable in a gale of wind."

The annexed sketch is a kevel or cleat, to which large ropes, such as a main-brace, main-sheets and tacks, &c., are belayed (made fast). They are fixed sometimes to the deck, and to strong stanchions against the bulwarks.



CHAPTER VII.

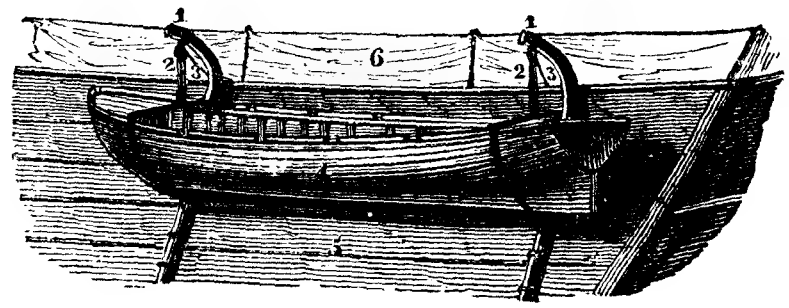
Quarter-davits and stern-davits, and their uses—Hoisting on board the large boats, guns, &c.—Armament of 120-gun ship—The rudder, tiller, wheel, compass, and binnacle, described—Hammocks.

IT is a matter of the first importance that all the boats necessary for a ship should be good, sound, and so arranged as to be readily accessible in case of need. How often have we read of the miserable policy of keeping the plugs out of the long boat, launch, or jolly boat! This is a very dangerous policy, for should any sudden emergency occur no one thinks of the plugs, and the boat fills as soon as it is lowered. When ships are about to proceed to sea, their large boats are hoisted on board, and the small ones suspended to davits at the quarter, and elsewhere. The boats hung at the quarter are thence called the quarter-boats.

I will now describe the quarter-davits, to which the quarter-boats are attached. There are quarter-davits and stern-davits. In small vessels, the lesser boats are generally hoisted to the stern, whence the term stern-davits is applied.

The davits are generally of iron, and are moveable, so as to be unshipped when not required for use. They are made to fit into sockets or eyes attached to the ship's side.

The annexed sketch is a representation of a quarter-boat, slung in its place on the quarter, near the stern of the ship.

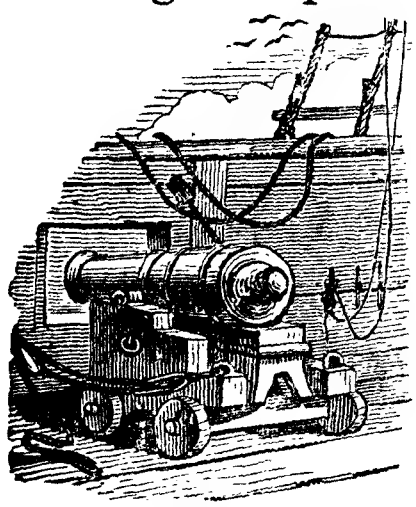


The method of hoisting a boat is as follows:—Bands of rope are passed round it, at the head and stern, to which boat-tackles, as already described, are attached. The upper block of the tackle is slung to the outer end of the davit, and the tackle-fall is carried in board. Nos. 1 1 are the davits; 2 2, the tackles; 3 3, the falls; 4, the boat; 5, the ship's side; and 6, the weather-cloths on the top of the bulwark. The other boats, being much larger, are stowed in board. These comprise the launch, the long-boat, barge, yawl, &c., varying from thirty-six feet in length, by ten feet beam, downwards; the launch being the largest. Some are stowed on the booms in the waist

of the ship. (The booms are spare spars, kept in case of accidents at sea, and for various other purposes). The launch, cutter, long-boat, &c., which are, of course, rather heavy, are hoisted on board by means of the stay-tackles, before described; which are led out by guys to the yard-arm, so as to hang perpendicularly clear of the ship's side for the purpose. Guns, anchors, and other heavy weights, are got in by the same means.

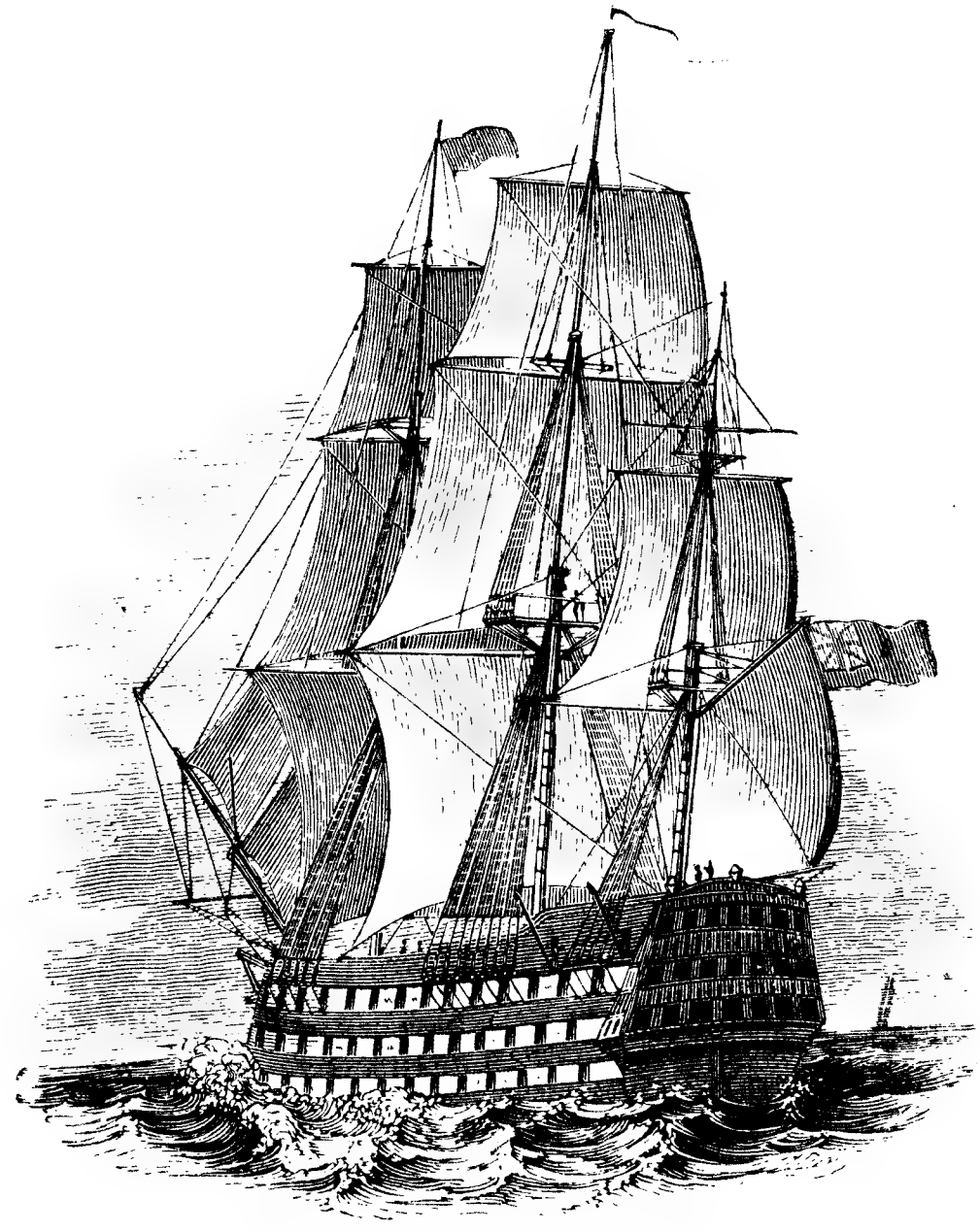
I have now come to the guns and armament.

Guns are of various dimensions and calibre, and ships are fitted with them frequently as the taste of the captain may dictate, or the nature of the service she has to perform requires. The following is one list for the armament of a 120-gun ship:—



On the lower-deck ..	30 32-pounders And 2 68-pound carronades
On the middle-deck ..	34 32-pounders
On the main-deck ..	34 32-pounders
On the quarter-deck	2 18-pounders And 14 32-pound carronades
On the forecastle ..	2 18-pounders And 2 32-pound carronades.
	120

Besides the foregoing, are bow and stern chasers, and, not unfrequently, a bomb or mortar, for throwing shells.



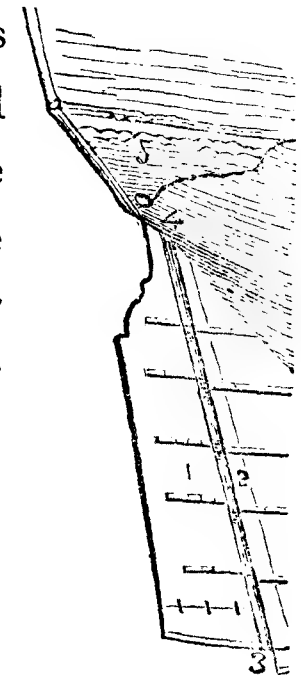
A FIRST RATE OF 120 GUNS.

p. 84.

The size of a gun is named by the weight of the shot it is fitted to discharge.

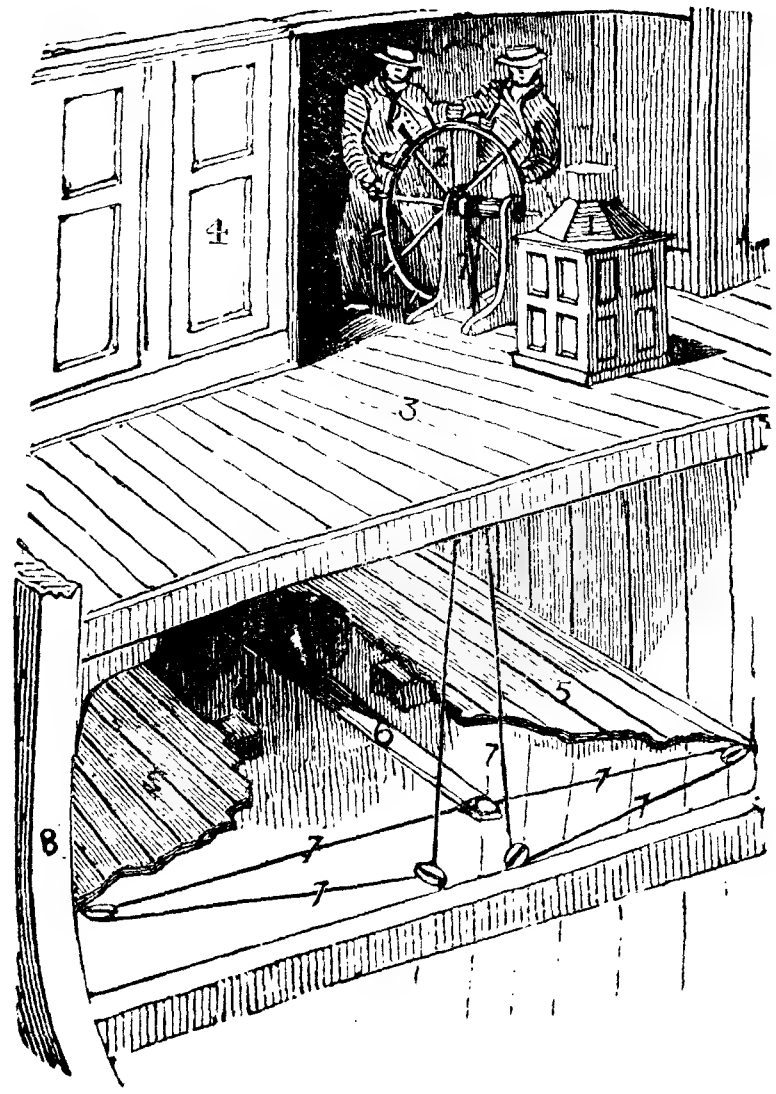
It is not necessary, my young readers, that ships in action, should get very close together before they discharge their guns; as a shot will fly through the air upwards of two miles, and take effect; and when it appears to be nearly spent, it would not be a very wise trick in any one to try and stop it with his foot, unless he had no further use for it—his foot, I mean. Many a poor fellow has been knocked down by a spent ball, as it is called, and if not killed, at least very seriously injured.

A very important part in the working of a ship, is her rudder. This is at the stern, where it turns on hinges at the stern-post. The annexed drawing is a sketch of one; in which figure 1 is on the rudder; 2, the stern-post; 3, the keel; 4, the ship's counter, and 5, the lower part of the quarter-galleries. The working part of the rudder is under the break of the poop, abaft the quarter-deck.



Here is a small barrel, supported by two uprights, around which ropes called tiller-ropes, are wound. Attached to the barrel is a wheel,

fitted with spokes, which serve as handles for a man, or men, to turn it, as shown in the sketch below. In all large ships the rudder is thus worked.



The ends of the tiller-rope are conveyed from the barrel of the wheel, down through the intervening decks, and attached to the extremity of the tiller (a horizontal beam

fitted on the head of the rudder). The end of the tiller works in a curved socket, along which the tiller-ropes are also led to blocks on each side of the ship; and, when returned to the central blocks, and conveyed up to and around the barrel of the wheel, it forms a continuous line. As the wheel is turned round, an alteration in the position of the tiller, and consequently of the rudder takes place; and, as a part of the tiller-rope is coiled up on the barrel on one side, a corresponding quantity is uncoiled on the other. In the drawing, a portion of the ceiling of the gun-room, or deck of the wardroom is removed, in order to show clearly the working of the tiller-ropes.

Explanation of the drawing:—No. 1, the binnacle and compass-box; 2, the wheel; 3, the quarter-deck; 4, the bulkheads of the captain's cabin; 5 5, portion of the wardroom deck; 6, the tiller; 7, the tiller-ropes.

The wheel, as represented, is a double one, the nearer being removed, to show the barrel and tiller-ropes more distinctly.

In fine weather, the helm is managed with ease; the ship's course being given by the master of the ship, the helmsman has only to keep the ship in that course, by the compass fixed in the binnacle immediately in front of him.

By night, a lamp is burnt in the binnacle, the light of which is reflected upon the compass below it; so that the man at the wheel can keep the course ordered, as well at night as by day. If the helm is required to be moved towards that side of the ship on your right, when standing on the quarter-deck, and looking forward, the order given is, "Starboard the helm;" and if to the left, "Port the helm" would be the command.

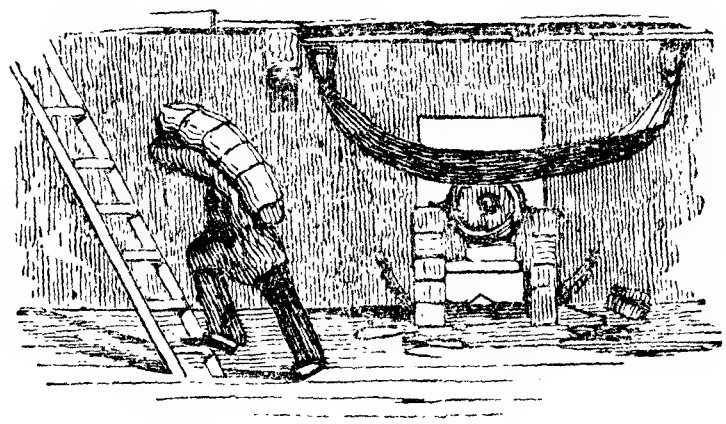
In rough weather, the difficulties of steering are generally very great; and as I have met with a few cases in my voyages when this has occurred, I will detail those difficulties in my narrative. I will now tell you about the hammocks.

The seamen sleep in hammocks, a kind of bag, open from end to end, made of strong canvass. At each end, a number of small lines, called clues, are fastened, and gathered up into a ring, called a grummet, and a rope, named a lanyard, is made fast in each, by which it is lashed to the battens, fixed under the decks for the purpose, where it swings about with the motion of the ship.

The officers have what are called cots, and other contrivances, called standing bed-places.

Every morning, the order, "Up all hammocks," is given,

preceded by the call of the boatswain's whistle, to command attention. The hammocks are then unslung, and stowed away for the day in the spaces above the bulwarks, called the hammock-nettings, which are carried all round the ship. Jack, therefore, is obliged to pack up his bedding in as small a space as possible, and carry it on deck. In the annexed drawing, one hammock is shown slung to the battens over a gun, and a sailor, with another



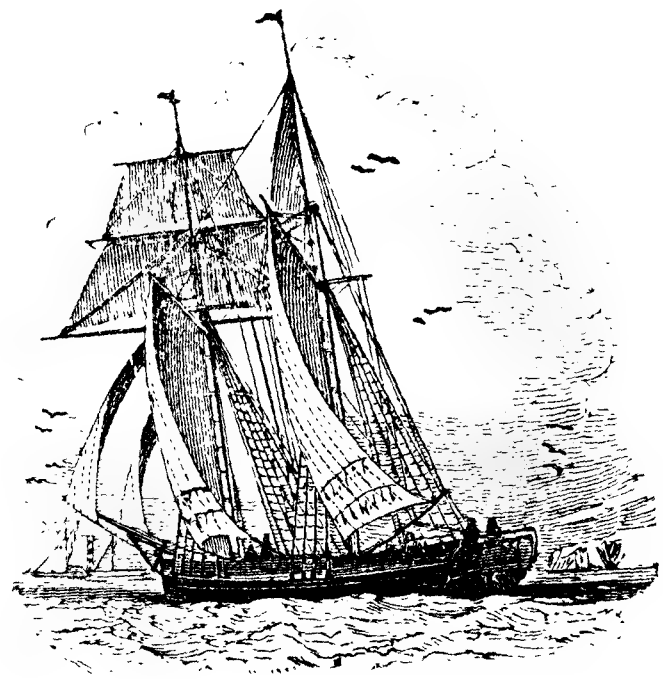
packed up to stow in the nettings, is about to ascend the companion ladder, to place it there. At a certain hour in the evening, they are all piped down again. Although nearly a thousand men have to get their hammocks—by the order and arrangement that exist, and every one being numbered, it is done without either noise or confusion, and the whole business is accomplished in a few

minutes. It is rather a curious scene to walk through the decks of a ship after the hammocks have been piped down, and witness the arrangement. On each side of the deck, across and between the guns, are slung the hammocks, fifteen in a row on each side; the width allowed for each man seldom exceeding sixteen inches. It must be observed, however, that only every alternate hammock is occupied at the same time; the owners of the empty ones form the watch—that is, are on deck, and elsewhere, performing the duty of the ship.

Until the watch is changed, every vacant hammock is pressed into a very small space, by the occupier on each side of it, and sufficient room is gained; this would not be the case, but for this arrangement. When the watch is changed, the sleepers have to turn out, and their hammocks are compressed in a similar manner.

At eight or nine o'clock, all lights are put out, and, except those who have the duty of the watch to perform, all hands turn in; the only lights at this time existing in the ship, being those under charge of the sentries, in lanterns. Each sailor has two hammocks, and two sets of bedding, which gives him the opportunity of washing and cleaning one, whilst the other is in use.

In small ships, where they are much confined for room, but one hammock is allowed to be hung up for every two men. In this case, all are occupied at the same time.



A BRIGANTINE.

CHAPTER VIII.

The starboard and larboard watches—First, middle, and morning watches—Dog-watches—Stowage of live stock—A sailor's pets.

IN the management of a ship's crew it is of the utmost importance that the periods of duty, and of release from duty, be properly defined, and therefore, in order that the officers and crew of a ship may have their proper hours of labour and of rest, and so be prepared for undertaking the several duties of each according to his vocation, every ship's company is divided into two parties, called the starboard and larboard watches. These perform the whole duty of the ship alternately, each watch continuing four hours. Thus, supposing the larboard watch to be called at eight o'clock in the morning, they will continue until twelve o'clock, at which time a bell is struck eight times, and the starboard watch then take their turn of the duty, till four o'clock, when what is called the first dog-watch (the larboard) commences; this lasts only two hours, and then the second

dog-watch (the starboard), which is also limited to two hours.

After this, namely, at eight o'clock in the evening, commences the first night watch; at twelve, the middle watch is called; and at four o'clock the third, or morning watch.

The dog-watches are for the purpose of changing or breaking the watches, so that the middle, or night duty, shall not fall upon either the starboard or larboard party twice following, which would be the case without this arrangement; whereas now, as my readers will perceive, by a little calculation, this middle or night watch, falls upon the larboard and starboard watches alternately.

I will now add a few words respecting the stowage of the live stock.

The live stock is for the use of the officers, and paid for out of their own pockets: it consists of cows, sheep, pigs, and poultry.

The cattle and sheep are stowed away upon the main-deck, under the waist, between the guns; and the pigs, in that part of the ship called the manger, on the lower or gun-deck.

The cows are kept in boxes or stalls, the sheep in pens, in one or two tiers, according to their quantity; and the

poultry in hen-coops. The whole are under the charge of the butcher and poulterer, whose duty it is to milk the cows, feed the stock, and kill them, as ordered for the service of the officers on board. On board merchant-ships, the fowls are placed in hen-coops, round the bulwarks, on the poop, and along the taffrail; and the cattle are kept under the booms, in the waist, and not unfrequently the long-boat is housed over and battened round the sides, in which they are stowed. But, on board a line-of-battle ship, such things are not allowed above the main-deck; or else "Jack" would most likely have a pet pig or two running about, which would not be tolerated upon the quarter-deck.

A Jack Tar is not very particular in what he makes a pet of. I have seen lions, bears, and young elephants, strolling about the decks of a ship, quite as much at liberty as a Newfoundland dog could have been; and once, when an alligator hunt took place in the East Indies, a number of young ones, about a foot long, were caught, and brought on board by the men, for their amusement. After this, I think, ladies may pet parrots, spaniels, and other small doggies, without much surprise to any one.

What is contained in the preceding pages will, I think,

give my readers a good general knowledge of the construction, nature, and properties of a ship. There are, however, many terms and words used by the captain and officers, in directing this stupendous effort of the skill, ingenuity, and perseverance of man, across the dark and dreary ocean, of which it is necessary some information should be given. But as a list of these, given separate from the circumstances to which they refer, would most probably be rather dry reading, and, perhaps, uninteresting to you, I will endeavour to embody those most generally in use, in the narrative of my voyages, and attach to each, in their proper places, the explanations of them.

I will, therefore, now commence that narrative; and those of my young readers who have by this time felt an interest in Grandpa Ben, will find some circumstances not unworthy their notice in the following pages.

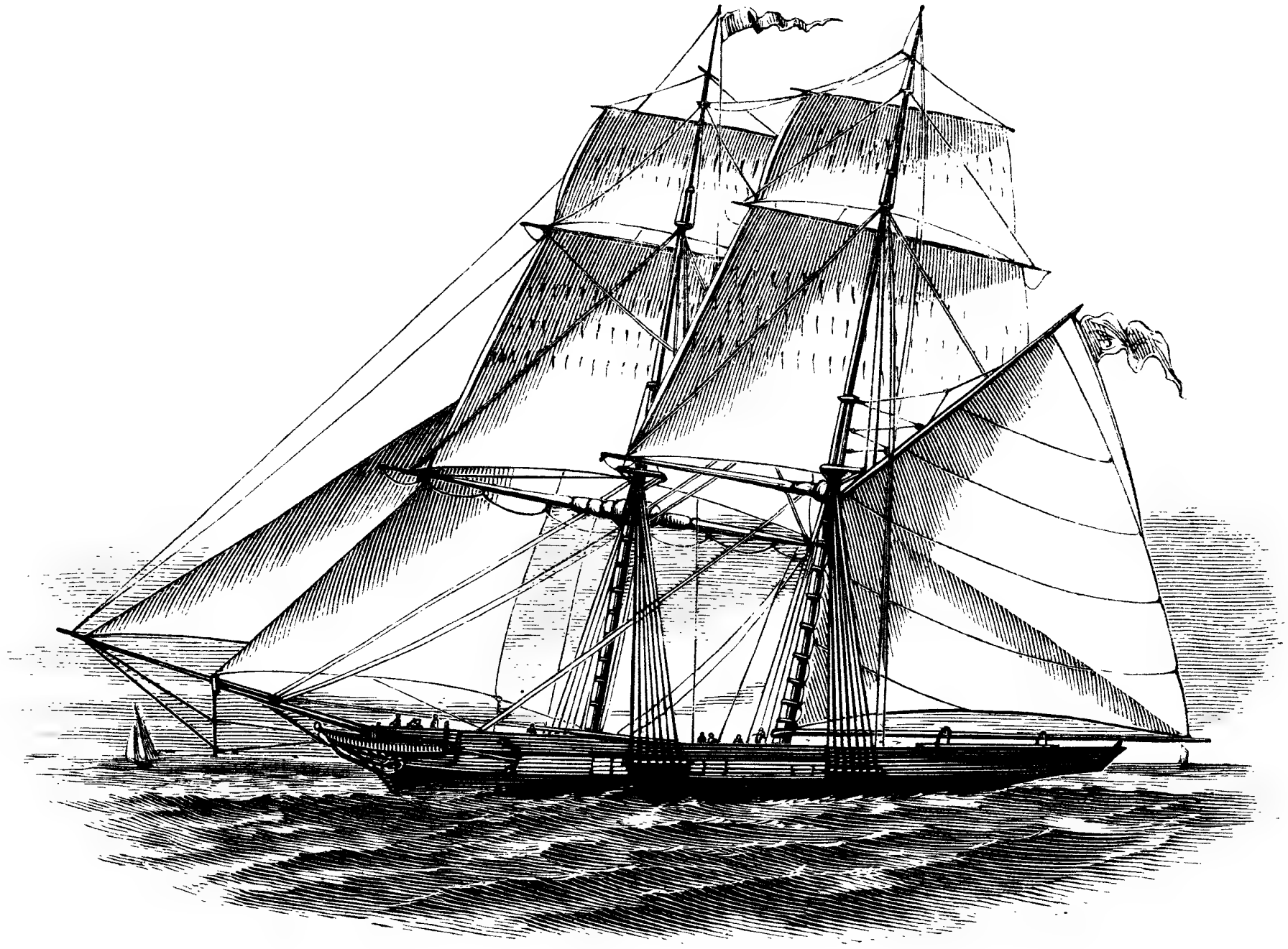
" And now, my children," said I, addressing the group around me, " it is time that I conclude my descriptions for this evening. We have had a long spell of it; and if you are not tired, I must confess that I am; and it is now getting late. So you must e'en all of you get to the house, where in your beds you may dream of what I have read to you, if you can; and mind you don't mistake the

main-stay for the *main-brace*, nor the *topping-lift* for the *topsail-lifts*, or any such blunders.

"Instead of your usual lessons, you shall, to-morrow morning, have the diagram of the rigging to study, with the list of names of the masts, yards, and rigging."

"Thank you, dear grandpa," said one and all. "We are much obliged to you for both what you have already told us, and your kind promise for to-morrow. We will pay most particular attention to it, and endeavour to learn it by heart."

We now returned to the house; and shortly after the young ones departed to their beds, where I shall leave them and also my readers, for the present, wishing you all "a very good night."



CLIPPER (OR FAST SAILING) BRIG.

CHAPTER IX.

Grandpa leaves home, and joins the Prince of Wales, as midshipman—Parting with his mother—Departure—Sailing from Portsmouth—Ships in company—Grandpa's messmates—Tom Britain and Charley Stanhope's quarrel—Its happy termination.

I CANNOT tell what may be the feelings of the lads of the future, but in my young days there was so much of the romantic and the daring in the life of a sailor, that it is scarcely to be wondered at that those living in or near seaports should determine to be sailors. Much of the romance has been done away with by the advent of steam, which, while it adds greatly to the comfort and lessens the hardships of the sailor, has done much to lessen seamanship as exhibited on vessels dependent on wind alone.

I have stated, that both my mother and uncle used every argument to induce me to change my intention, but in vain: I was determined to be a sailor; and at length I was sent to my uncle Edward, who at that time was captain of the Prince of Wales, of 120 guns. I will pass over my fitting out, and all connected with it; and now behold me

on the deck of this noble ship, dressed as a midshipman, with my dirk belted round me, and my sky-scraper (cocked hat) on; and quite a man, in my own estimation, though but fourteen summers had yet passed over me. But I should first have told you of the parting with my dear mother, which is even now fresh in my memory; for it was really our first and last parting. I was absent four years; but, ere my ship again reached England, death had visited our house—my dear mother was no more. When I heard this melancholy intelligence, our parting recurred with startling force to my memory; and the heavy forebodings that had evidently oppressed her mind with the idea that we should meet no more on earth, now hung heavily at my heart, and bitterly I regretted having left her, and the agony I had caused her, parting as she did with her only child. Her last words will ever remain on my memory, as, in trying to soothe her, I exclaimed, "Don't cry, dear mother—don't cry; I shall soon come back, and we shall again be so happy." "Go, my child—my dear boy," replied she, whilst her heart swelled almost to bursting; "go, my child: I will resign you to the merciful care of that Being, who is a Husband to the widow, and a Father to the fatherless."

After my departure, I received a letter from her before we sailed. It inculcated all the moral and religious duties; requested me to peruse my Bible; and near the close were the following lines, which I read so often that they became impressed on my memory: they were—

TO MY SAILOR BOY.

When sailing on the ocean,
In foreign climes you roam,
Oh, think with fond emotion
Upon your distant home;
And never strive to smother,
But treasure up with joy
Remembrance of a mother,
Who loves her Sailor Boy.

When thunders loud are roaring,
And vivid lightning flies,
The rain in torrents pouring,
Sleep will depart my eyes;
Tears will bedew my pillow,
You all my thoughts employ
Toss'd on the angry billow,
A little Sailor Boy.

Kind Providence protect you,
And bring you back again;
Your mother will expect you
Safe from the troubled main.
No, Heav'n will not distress me,
The widow's hope destroy;
Return once more to bless me,
My little Sailor Boy.

My uncle was a man of a kindly and compassionate heart; and though, before I went to sea with him, I used to play him many a sly trick, and sometimes grieve his spirit, yet he was always lenient to my failings; and now that he lies in yonder village churchyard, this often causes me a pang of unfeigned contrition for the past.

Long before I became a midshipman, and was placed under his care, it had been my chief delight to hear him tell of the roaring of the guns when ships met in deadly strife, or when the stormy sea, lashed into fury by the howling winds and the raging tempest, threatened destruction to the mariner. And he would so mingle his stories with the generous sympathies of his nature, that many a night has sleep dried the tears from my eyes as I lay on my pillow, after retiring to bed.

We sailed from Portsmouth, and were bound on a three years' cruise. In company were the Undaunted frigate, of 36 guns, and the Termagant, 16-gun brig, besides a large cutter, as a tender.

Who is there that has not exulted in the scene, when the proud ship has spread her canvass to the breeze, to visit distant lands? Or, when returning to her own home-shores, the gallant tars have

"Hailed each well-known object with delight?"

Scarcely less was the delight of our brave seamen, as we passed Spithead, on our outward-bound voyage. We were destined for the scene of action, as our country was then at war with France and America; and many of our gallant fellows were indulging themselves in calculations as to the extent of prize-money they were likely to obtain from the cruise, which some never lived to realize.

It was the first time I had ever been to sea, though I had many times visited my uncle on board, when he happened to be in harbour; and I had already learnt a good deal of sailors' language from his coxswain, with whom I had always been a great favourite. For, you must know, the real tar has a language peculiarly his own, and his

figures of speech are generally unintelligible to a landsman. For instance, when speaking of a rough dinner, in the preparation of which the cook had not been very careful, Jack will say that he has given him too much galley pepper; that is, there is a plentiful supply of cinder-dust instead of the other more seasonable article. In his dress, the seaman will give nautical names to every part; calling his body his hull, his clothes his rigging, his hat his truck, and so on.

A new scene was now open before me; and, as my kind uncle introduced me to my brother midshipmen and fellow-messmates, he privately gave me to understand, that I was to conduct myself towards them all as if I had no uncle in the captain, nor relative in any of the officers, which was the case with my messmates; and that I must not expect any more favour from him, than each would receive when he conducted himself properly, and the same as I should myself require when placed under the orders—as it was likely I should be one day—of a stranger as captain.

This was very judicious conduct on the part of my uncle, and I assure you he firmly adhered to it; and if in my folly I ever committed an act that deserved a repri-

mand, or any other kind of punishment, I was as certain of receiving it as any of my brother mids would be, if similarly placed. Thus it became known to all of them that, though the captain's nephew, I was treated like themselves. Any little unfriendly or suspicious feeling that had entered their breasts when I first joined them was removed, and we were soon the best of friends; at least, all who were disposed to be so with me, I was glad to treat as such.

We had, however, on board two mids, who had been schoolfellows, but who, contrary to the general rule in such cases, that "long companionship makes close friends," were constantly quarrelling with each other, and very frequently from words they came to blows, until at length their conduct made them both so disagreeable to the mess, that we left them to themselves entirely.

At length a circumstance happened which changed the face of matters, and from being the bitterest enemies they became the best friends, and this friendship lasted during their lives; for they were both really good-hearted fellows.

One day, in one of their usual quarrels, which commenced in a mere trifle, one word brought on another,

till their exasperation had reached its height; when, in the heat of the moment, Tom Britain threw the glass he at the time held in his hand directly in the other's face, inflicting a severe wound, as it broke in pieces.

At this moment Tom was called on deck, and for a time the consequences of this act were prevented; but Charley Stanhope vowed in his own mind he would have sufficient revenge. He kept all to himself, however; and, when his messmate returned, he quitted the mess-table and went on deck.

That same night he put his predetermined retaliation in practice. Retiring to rest with his companions, and waiting till he supposed all were asleep, he rose noiselessly from his hammock, and having ascertained that Tom Britain was in his, and fast asleep—which was proclaimed by his loud snoring—he silently drew forward towards the head of the hammock, one of the seamen's chests that were leaning against the bulkhead; this he ascended, and with his knife severed the clues or cords by which the hammock was suspended. The unconscious sleeper descended, when his head came in violent contact with the edge of the chest: one deep groan escaped him, and all was quiet—he never moved or spoke, but lay as if dead, with his head

resting on the chest, and his feet and body suspended by the foot of the hammock, which retained its proper hold-fast.

Such serious consequences as this from his revenge, had never entered Charley's thoughts. He became dreadfully alarmed; and having tried to arouse his former enemy—using now the most endearing terms to him, but without effect—the whole force of his folly rushed upon his mind; and, scarcely knowing what he did, he ran into the cabin of the gunner, exclaiming, "What shall I do, Mr. F——? Come here directly; I believe I have killed poor Tom Britain. What shall I do? Come and help me to raise him."

Mr. F——, with whom Tom was a great favourite, immediately ran to the spot, where he found the poor fellow perfectly insensible, and the blood flowing freely from a wound at the back of his head.

"Oh! say he is not dead," exclaimed Charles, eagerly watching the serious countenance of the gunner. "Oh! tell me he's not dead! I did not mean to hurt him so much when I cut him down. I did not think he would fall so heavily."

"He's not dead, sir," said Mr. F——, "but he is sadly

hurt; and I think it will be some time before he recovers this—perhaps some weeks. But I must fetch the doctor as soon as we have got him from the position in which your cruelty and folly have placed him."

Saying this, he raised the head of the unconscious sufferer in his arms, and directed Charles to lower the foot of the hammock to the deck. This was done; and seeing how bitterly the poor boy repented the rash act he had committed, and placing the sufferer in as comfortable a position as he could, with Charles supporting his head, he went to the doctor, reporting on the transaction in as favourable a manner as he could. The doctor immediately came, and having examined the wound, and found that no serious consequences would ensue, provided he was kept perfectly quiet, after having stopped the effusion of blood, and directed poor Tom to be immediately placed in bed, he retired. He, too, was moved by the repentant manner of Charles, and forbore to upbraid him.

Poor Tom remained insensible during the night, and part of the following day, and never for one moment was Charles absent from his side. At length the heavy stupor which had chained the faculties of the youth for so long a time, was dispelled, and Tom opened his heavy eyes, but

for a moment only: he placed his hand to his burning temples, exclaiming, " Oh! my head, my head!"

Charles instantly seized his hand, saying, " Oh! Tom, forgive me, and never will I offend you by word or deed again. Oh! say you forgive me, Tom."

The youth again opened his eyes, and this time they rested on the countenance of his companion, who was looking in his face, eagerly expecting his answer.

" Where am I?" exclaimed Tom. " What is the matter? What is the meaning of this bandage round my head, which is aching as if it were splitting; and why are you here? What is it all about? Do tell me, Charles."

Charles told him that he had caused it all, and how he had brought this heavy affliction upon him; and earnestly pleaded for forgiveness.

" Charles," said Tom, at length, " we have both been to blame. I remember now, that I threw a glass at you, which might have been attended with as bad, if not worse, consequences than those you have caused me; and, as I trust we now both see through our folly, that you will forgive me as readily as I forgive you; and let us be friends."

" Oh! Tom, you rejoice me much; you have removed

a heavy weight from my heart," said Charles, as he shook the hand of the sufferer, rather too roughly for his critical situation ; " we will be friends for ever."

Gradually Tom recovered from his mishap, but it was nearly three weeks from the time he received the injury before he was able to return to his duty ; and during this time his former foe was his constant companion whenever circumstances would admit. The happy change in both that had resulted from the circumstance, being reported to the captain, he passed the matter over without further notice, than merely remarking to them, some short time after, when he saw the two youths pacing the deck arm-in-arm—" Now, my boys, is not this better—more pleasant to your own feelings, and more like the behaviour of gentlemen, than your former ridiculous conduct to each other ? I am heartily glad to see you thus : may it continue, and you will be rewarded." So saying, he shook them both warmly by the hand, and the now truly gratified lads passed on.

Thus ended an affair which, in the outset, appeared likely to be a source of annoyance to the whole midshipmen's mess. The circumstance had its due influence on all our minds, and perfect concord and the most gentle-

manly conduct existed among all its members; and we had the pleasure of receiving, not only the congratulations of our own captain, but were cited as patterns to copy, by other captains, who had occasion to find fault with the conduct of their youngest officers.

" Keep watch, nor let the burning tide
Of impulse break from all control:
The best of hearts needs pilot-guide,
To steer it clear from error's shoal.

" One wave of passion's boiling flood
May all the sea of life disturb;
And steeds of good, but fiery blood,
Will rush on death without a curb.

" The coward wretch whose hand and heart
Can bear to torture aught below,
Is ever first to quail and start
From slightest pain, or equal foe.

" Be not too ready to condemn
The wrong thy brothers may have done:
Ere ye too rashly censure them
For human faults, ask—'Have I none.' "

ELIZA COOK.

CHAPTER X.

Course through the Bay of Biscay—The soundings that have been obtained there—Mountains and valleys on land and in the sea—Falling in with the Nero—A calm—Appearances of the weather—The storm—The cable parted—Guns of distress—Brig ahead—Coming athwart-hawse—Loss of the jib-boom and topmast, with the hands that were in the rigging—Unsuccessful effort of a sailor to save a boy—The ships separate—A jury-topmast—Frigate weighs anchor, and arrives in port.

THE Bay of Biscay, through which we were proceeding with a favourable breeze, is that part of the Atlantic Ocean which lies between the island of Ushant, in France, and Cape Ortegal, in Spain; having the Spanish province of Biscay to the south. It washes the whole west coast of France and the north coast of Spain, and receives the waters of the Adour, Charente, Gironde, and Loire. It was in this bay that Lord Howe obtained his memorable victory over the French fleet, June 1, 1794. In this bay there is always a very heavy swell rolling; and you may have heard, my young readers, that the water is very deep, and also the vulgar belief that it has no bottom. But the latter

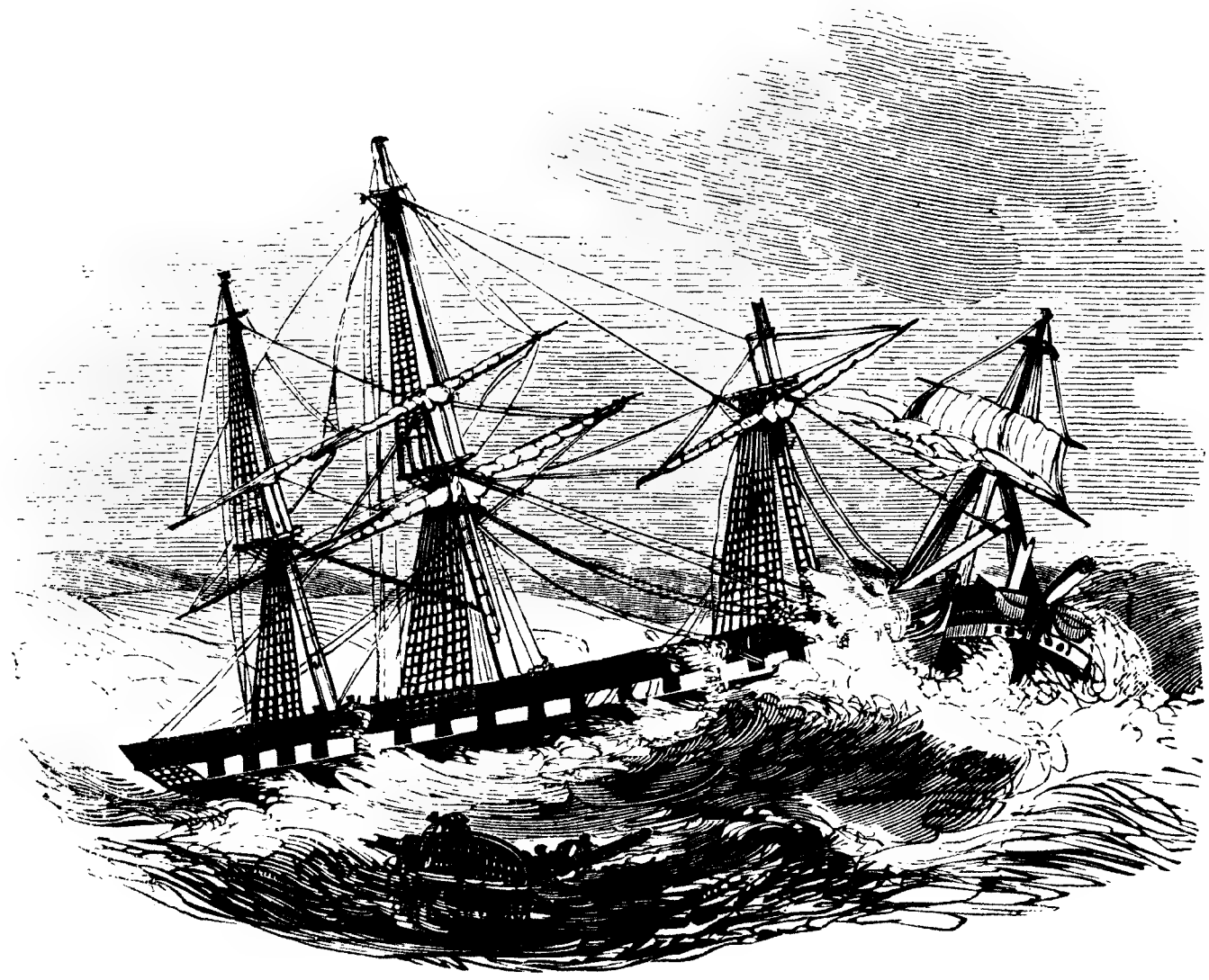
is too absurd to need a comment from me. It is probable this error arose from the fact, that no length of line that has yet been lowered in it has ever reached the bottom. Scientific men, however, have discussed the subject, and assigned satisfactory reasons for it; and in 1869, Professor Thompson obtained soundings in 2435 fathoms, equal to 4870 yards. Much deeper soundings have been taken in other parts of the ocean, especially off the banks of Newfoundland, where a depth has been reached with the improved sounding apparatus now in use of more than six miles.

There is no doubt that the bottom of the ocean is varied as much by hills and valleys as the surface of the earth; and that, as your geography tells you, there are in many parts of the globe mountains measuring about 26,000 feet, or nearly five miles in height, above the level of the sea; so it is likely there are valleys in it, of as great, if not a greater depth: and it has been proved that, as the depth of water increases, it becomes more compressed and solid. I will make this more clear to you, by asking you a question: How is it that a large piece of timber, which requires the strength of two or three horses to move it on land, if thrown into the water will float?

"Oh," said Edward, "it is very evident, although it does not seem so, that the water is heavier than the wood."

Just so, my boy, such is the case; the weight, or specific gravity, as it is called, of the water, is greater than the wood, even at its surface. Now you can easily suppose that, at the depth of several hundred feet, the water will be heavier, from the immense pressure that is above it; and the weight of a square foot of it there, would be many times the weight of the same quantity at the surface. Thus it may become at a great depth, sufficiently solid to support the weight of a ship's anchor. Various experiments have been tried, to ascertain the pressure of the water at a considerable depth from the surface. An empty tin can, with a weight attached to it, has been lowered; and when drawn up, the sides have been found pressed together, as closely as if it had been crushed by a heavy weight falling upon it: an empty bottle has been lowered, and this was broken in pieces.

The above, I think, will explain the reason why soundings could not be found in the Bay of Biscay, and various other parts of the ocean, similarly circumstanced as to depth of water, with the old sounding lines.



THE NERO OFF THE OWENS—BRIG ATHWART HAWSE.

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As we passed through the Bay, we fell in with a frigate, called the Nero, homeward bound. She had encountered severe weather, and had been a good deal knocked about; but all hands were elated with the prospect of soon seeing their native land—which, alas! some of them never reached. As the tale may interest you, I will relate what befel her after we parted.

The Nero reached the English Channel in safety, and was gradually making her way towards the Downs, when night and a perfect calm came on; and, lest she should drift upon the Owers Sands (a dangerous shoal, not far from Spithead) they were obliged to bring up. The sun had gone down in an angry glare of flushing clouds, that crimsoned all the western horizon; and there was a misty reddish haze gathering in the atmosphere, that betokened a degree of wildness in the signs of the weather. And whether this preluded one of those sudden and violent tempests which sometimes visit the Channel during the summer months, or whether it was caused by the intense heat, and indicated a succession of calms, became a matter of scientific dispute with the seamen, and one in which the oldest officers differed in opinion.

As night advanced, all but the watch retired to rest:

towards midnight the sky became dark and lowering, but not a breath of wind ruffled the surface of the silent waters. Suddenly the dense gloom overhead burst asunder with a deafening crash, and sheets of vivid fire lighted up the surrounding ocean, whilst a rushing wind swept through the cordage of the vessel.

In an instant all were alert in the frigate; but the heavy squall from the south-west caught her, and pressed upon her with such fury, that the cable parted at the hawse-hole (at the bow).

The ship was forced off in the direction of the storm, and the gallant Nero, that had so often braved the battle and the breeze, was making rapid progress towards the shoal, and her certain destruction.

"The cable's parted!" rang through the decks; and all was instant confusion.

At this moment, a loud and sonorous voice rose above the howling of the gale, and commanded "Silence!" It was the captain's; and in an instant every tongue was hushed, and not a seaman moved, but in obedience to duty. The men flew to their stations—the frigate's head was once more brought to the wind; and, when the proper moment arrived, the best bower anchor was let go, which fortunately held firmly in the ground.

The darkness was intense; and, to add to the desolate nature of the scene, guns, from some other ships in distress, were heard during the night. It was hoped that from its intense fury, the gale would soon wear itself out; when suddenly a fresh object of terror was given to view, during a vivid flash of lightning—a large brig was right ahead, and coming directly down upon them.

The captain had seen the brig, and instantly ordered the cable to be cut, but no axe was at hand, and the frigate could not escape. Many men at this moment were aloft, endeavouring to secure the rigging, when the stranger came ploughing up the foam before her. "Fire one of the forecastle guns, and show them lights," shouted the captain. But whether they saw the one, or heard the other, must be for ever unknown. The brig appeared unmanageable, as she struck the frigate on the bow with a shock so violent, that she careened over (turned over nearly on her side); and none, except those who had secured a holdfast, were able to retain their footing on the deck. The crash was tremendous, and the stranger's foremast, with all its weight of top-hamper (spars, sails, and rigging), was carried over the side; the wind in the after-sails swung her round athwart the frigate's hawse (right

across her bows, as shewn in the engraving), breaking the jib-boom of the latter just within the cap, and bringing down with the wreck the fore-topmast and all its gear (sails and rigging), and precipitating most of the poor fellows, who were on it and the yard, into an ocean grave.

Some of them were good swimmers, and, no doubt, buffeted the waves, as they struggled to retain existence; although they must have known there was no hope for them.

It must be a fearful thing, my young readers, thus to die—in the midst of health and strength; perhaps unprepared to meet their Maker, and stand before his dread tribunal. Doubtless, years of sin and crime crowd upon the faculties of the drowning man, with startling force, even though bodily weakness may be creeping o'er the frame, till the deep waters close over him, and he is no more.

Amongst the poor fellows was a remarkably fine athletic young man, who had been accustomed to the sea from his infancy; he rose buoyant and fearless on the surface of the water. A lad, of about fourteen years of age, had risen by his side; but, being unable to swim, he had caught hold of, and clung to, his companion in distress. so

as to endanger the safety of both. The generous seaman would not shake him off, for he was aware there must be some of the wreck of the mast floating near them, and he thought he might find sufficient to make something of a raft; but the lad encumbered him. "Place your hands on my shoulders," said he to him, "but do not press too heavy, and I will endeavour to save you if I can."

The boy complied, and a blaze of lightning showing the frigate at no great distance, he boldly struck out for her, bearing his burthen lightly; but the wind was carrying the ship away further than he calculated, and he found the lad heavily oppress him. Still he persevered; but his strength was failing him, and he could scarcely raise himself above the water, on account of the weight of the boy.

"Jem," said he, at length, "it is of no use, I cannot keep afloat much longer with you upon my back; and yet ——" He stopped, and again renewed his generous toil; but a dizziness was creeping over him—he could scarcely keep his chin above the water. "Jem," said he to the poor boy, "we must go; I cannot bear you any longer. Indeed, Jem, I have done my best; but we shall both be lost unless ——"

The seaman could not conclude, but the boy did for

him. "I know it, Harry," responded he. "You have done all you could; and yet it is hard to slip away from life when just at home. My poor mother, Harry—if you're saved, will you—will you tell her that I prayed for her in my last moments?"

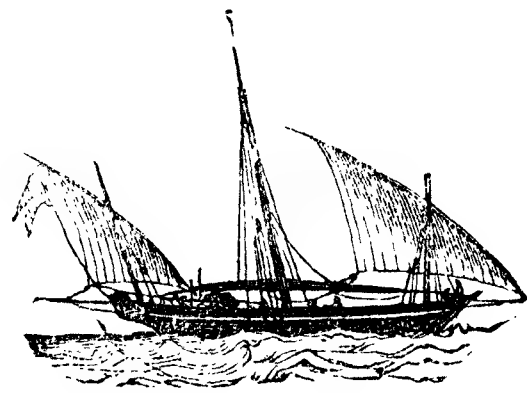
"I will, my boy, indeed I will. God have mercy on you, Jem, and I trust we shall meet in heaven; it is but a small chance I have, for I am getting very weak," answered the seaman.

"Good bye, Harry," said the lad, as he slid from his companion's shoulders: the latter heard one cry—it was—"Mother! dear mother!" and he was on the wild waters alone. Consciousness had nearly forsaken him, when he grasped a portion of the wreck, which afforded him rest. He clung to it with desperate energy, was washed over a deep part of the reef, and was picked up the next morning by a fishing-boat, and saved. But to return to the frigate.

The ships laid grinding together; the captain heading his men in the midst of danger, with knives and axes, endeavouring to cut the ships clear. At length they separated, and the brig was discovered the next day ashore on the sands: but all hands had perished.

The frigate, however, retained her position ; and, as the gale had considerably abated before morning broke, she was enabled to rig up a jury topmast, and to fix on to the end of the bowsprit a new jib-boom. In the morning (as they were in a very leaky state, from the violent shock she had received) no time was lost in getting the ship under-weigh ; and, by crowding as much sail as the shattered state of the hull and rigging would allow, she passed the Downs, and proceeded up the river to Chatham Dock-yard, where she arrived in safety before the leaks had gained much on them.

I must now, my young readers, return to my own ship, and my narrative.



A POLACCA.

CHAPTER XI.

The Trade Winds; their use to Sailing Ships—Atlantic Ocean—The Gulf Stream—Loss of the Atalanta—Value of discipline—Loss of the Medusa—The raft—Wreck of the Alceste.

CONTINUING its course through the tempestuous Bay of Biscay, our little squadron in due time got into the Trade Winds, or "the Trades," as they are generally called.

The Trade Winds extend between 20° and 80° of west longitude, from the north-west coast of Africa to the east coast of Central America. It is a remarkable fact, that, during one portion of the year, the wind is always blowing in the same direction, both night and day; and for another period, as constantly in the opposite course; that is, either from west to east, or from east to west. To take advantage of these winds, when going from this country to America, the time generally chosen was when they blow from east to west. Ships then proceed a long way to the southward, almost to Madeira, in order to derive the full

benefit of the Trades; and, in returning from America and the West Indies to this part of the world, the time selected was when the wind from west to east prevails.

From the great advantages secured to commerce by these prevailing winds, the name of "the Trades" has been given to them.

These winds are caused by the rushing of the colder air from higher latitudes to fill up the space left by the heated and ascending air near the equator. The northern limit of the north east Trade Wind is about 29° of north latitude; its southern limit varies from 10° to 12° of north latitude.

We were now steering our way across the Atlantic Ocean. The narrowest part of this great sea, which lies between Europe and Greenland, is upwards of 1000 miles wide; and, under the northern tropic, it spreads to a breadth of about 4000 miles, without estimating the Gulf of Mexico, which is of very considerable depth.

From observation, it has been ascertained, that a current or stream is constantly flowing around this extensive ocean. Its source is in the tropics, and was first noticed in the Gulf of Florida, whence the name Gulf Stream has been given to it. It travels as much as 15,000 miles, be-

fore it again merges into its original source, which it does in about two and a half years. It is various in its progress: in some parts its celerity is as much as eighty miles in twenty-four hours; and in others, its rapidity resembles that of a torrent, and is sometimes five miles an hour. This is particularly the case off the Cape of Good Hope, where there is always a very strong current setting to the west, over the Aghullas Bank (an extensive bank situated on the east side of the Cape, and stretching out many leagues to sea). Over this bank, where it is always deep water, so strong is the current, that ships have been drifted, under a main-topsail a-back, and against a heavy gale of wind, from 80 to 100 miles in twenty-four hours. Many fatal shipwrecks have occurred here, from ships bound for the East Indies, not having gone far enough to the southward; and they have, consequently been set upon the eastern coast of Africa, where, from the nature of the coast, shipwreck is almost certain to ensue.

From the great strength of the current, it requires a strong breeze to stem it, and in gales of wind the seas are most tremendous.

In coming round the Cape of Good Hope, the current takes a north-westerly course, until it comes upon the

north-east coast of South America; the strength of the current falling upon that part called Cape St. Roque, north of Pernambuco. Continuing its course past the mouths of the rivers Amazon and Orinoco, it passes the island of Trinidad, and thence, in a westerly direction, along the northern coast of South America. From the positions of the different islands hereabouts, the probability is, that they originally formed part of the main land; the softer strata of which having been worn away, the harder parts are left in the form of islands, as now existing.

The stream now continues its course through the Caribbean Sea, in a northerly direction, into the Gulf of Mexico; thence it is turned, by the form of the land, in an easterly course, and flows out, through the numerous passages at the Bahamas, with a velocity of from 80 to 100 miles in twenty-four hours.

From the length of time that the water has been detained on the Mexican and Florida shores, it has acquired a high temperature; so much, indeed, above the water of the Atlantic, that, in navigating those seas, the time of entering the Gulf Stream can be told within a few minutes, by the sudden increase of the warmth of the water.

This stream gradually increases in width, after leaving

the Straits of Bahama, where it is about fifteen leagues broad. Continuing up the coast of North America, it is now, by meeting with the current from the Arctic Ocean, at the southern extremity of the Bank of Newfoundland (where it is eighty leagues wide), turned to the east, and, passing the Azores, or Western Isles, sets over upon the coast of Portugal; causing that never-ceasing swell which is found in the Bay of Biscay, on the coasts of France and Spain.

Its high temperature, as already stated, causes a great accumulation of vapour; this, in meeting the colder atmosphere at Newfoundland, is condensed, and forms those intensely thick fogs, so frequent in that latitude—in one of which the Atalanta was wrecked, which I will relate by and by.

At the Azores, the width of the current is 160 leagues. It now tends, in a southerly direction, towards the coast of Africa, and, in a south and south-westerly direction, down that coast, till it is again mixed with the equinoctial current, and performs the same course again. Thus the waters of the Atlantic are continually performing the same round. A branch of the current sets from the Azores, in a north-easterly direction, upon the British Isles and the coast of

Norway. This is proved from the fact, that ships make their passage from America to England in a shorter time than they do in going out; and, moreover, parts of vessels which have been wrecked in the West Indies, and plants from thence, have been picked up on the Hebrides, and north-west coast of Scotland.

From these circumstances, the coast of North America, the Bay of Biscay, and the Cape of Good Hope, are subjected more particularly to the heavy seas found in those places.

There is no doubt that England is greatly indebted to this stream for the comparatively mild climate she possesses, over other places similarly situated with regard to latitude; from the circumstance of the water of the Gulf Stream being as much as twenty-two degrees higher in temperature than the surrounding ocean, and gradually mixing with it, as shown by its increasing width, it raises the temperature of both water and atmosphere.

The depth of the Atlantic is extremely various, in many places being wholly beyond the power of man to fathom. Captain Scoresby, in the Greenland Sea, in 1817, plumbed (sounded) to the greatest known depth which a line has

reached; that is, 7200 feet. Many parts of this ocean, however, must be much deeper.

I stated that I would relate the particulars of the wreck of the Atalanta; I will, therefore, do so now.

You will observe, my young readers, in this instance, the effect of that truly essential property, so well maintained on board of a British man-of-war, called *discipline*. The following is from Captain Basil Hall's excellent work, called "Fragments of Voyages and Travels":—

H. M. S. Atalanta, Captain Hickey, in November, 1813, was standing in (steering) for Halifax Harbour, in one of those thick fogs so prevalent on that coast, when they unfortunately mistook the signal guns of another ship in the same situation, for the guns at Sambo Rock, which are fired during thick weather, as a guide to ships entering the harbour. The consequence was, she struck on the rocks, carrying away her rudder, half the stern-post, a great portion of the false keel, and, it is believed, a portion of the bottom of the vessel. She instantly filled, and was buoyed up only by the empty water-casks, till the decks and sides were riven asunder by the waves. Captain H——, who continued throughout as cool as if nothing had occurred, now ordered the guns to be thrown overboard; but, before

THE ATALANTA ON THE ROCKS.

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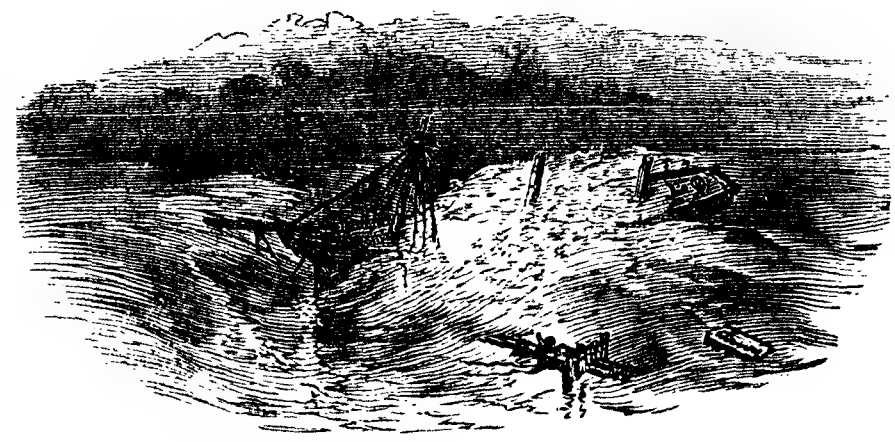
this could be attempted, she fell over so much, that the men could not stand on the decks. In lowering the boats, the jolly-boat was lost.

The ship now fast fell over upon her beam ends, and the masts were cut away; but the crash caused the ship to part in two; and, a few seconds afterwards, she again broke right across, between the fore and main masts. In this position, the wash of the sea sent the water entirely over her decks, sweeping off all that obstructed its passage.



A considerable number of the crew had got into the pinnace, in hopes that she might float as the ship sank.

Edward, where was the pinnace stationed?

"Upon the deck, with the booms, in the waist of the vessel."

Right, my boy ; now I will go on again.

Captain H——, seeing that the boat was overloaded, desired some twenty men to quit her ; and his orders were as promptly obeyed as they were coolly given—so complete was the discipline.

The pinnace shortly floated, but was upset by a sea. The people in her, however, imitating the coolness of their commander, retained their self-possession, and, by great exertions, righted her ; and, at a little distance off, lay waiting for further orders from the captain, who, with forty more, still clung to the wreck. The other boats were got out, and took off some of the men to the pinnace ; and, in order to enable it to contain them, the men, as removed to the pinnace, were laid down in the bottom of the boat, as close as herrings in a cask ; while the small boats returned to take off the rest, which was with great difficulty at last accomplished, the captain being the last to leave the ship. Except the despatches and one chronometer, everything was lost.

The pinnace now contained eighty persons, the cutter forty-two, and the gig eighteen, with which they barely floated. Hardly had the captain got into the boat, when the last fragments of the ship disappeared, accompanied

with three cheers from the gallant crew. The fog continued as dense as ever, and they had no means of knowing which way to steer; and, if it had not been for a small compass, which one man had appended to his watch, as a toy, they might not have been preserved. At last, they landed about twenty miles from Halifax, nearly naked, wet, and shivering, and cramped by being crowded so many hours in the boats.

The captain took the worst provided and most fatigued, round to the harbour, in the boats; and the rest, under the officers, marched across the country, in three divisions, with as much regularity as if going, well appointed, upon some expedition. Though very few had shoes, and they had to traverse a country only partially cleared, that same evening the whole crew, without one missing officer, man, or boy, assembled in Halifax, in as exact order as if their ship had met with no accident.

Having shown you, my young readers, in the above, the value of good discipline in a man-of-war, I will now relate to you the account of the wreck of the Medusa, a French frigate, and the lamentable results arising from a want of discipline.

The French possessions on the west coast of Africa,

extending from Cape Blanco to the mouth of the Gambia, having been restored to them at the general peace, in 1814, an expedition, consisting of a frigate and three smaller vessels, was sent, in June, 1816, to take re-possession of them.

This expedition was complete in all its parts, including men of science, artisans, agriculturists, gardeners, miners, &c.; amounting, with the troops, to nearly 400 persons, exclusive of the crews. The naval part was intrusted to Monsieur Chaumareys, who was in command of the frigate.

From want of discipline, and common care in navigating, the frigate was run aground on the bank of Arguin. It being found impossible to get her off, nothing now remained but to concert measures for the escape of the passengers and crew. Some biscuit, wine, and water, were accordingly got up, and prepared for putting into the boats, and upon a raft hastily constructed. But, in the tumult of abandoning the wreck, the raft, which was destined to carry the greatest number, had the least share of provisions; though of wine there was more than enough, there was not a single barrel of biscuit.

This raft, on which were 150 persons, put off with the boats, five in number, and containing the rest.

On leaving the wreck, the geographical engineer, who had volunteered to accompany his men on the raft, wishing to be assured that the proper instruments and charts for navigating it, had been put on board, was told by the captain that all had been provided, and also a naval officer to take charge. This officer, however, jumped into one of the boats, and never joined them.

The boats pushed off, towing the raft; they had not, however, proceeded two leagues from the wreck, when, finding it retarded their progress, one by one they cast off the tow-lines, pretending they had broken; and, instead of staying by the raft, abandoned it to its fate.

By this time the raft had sunk above three feet, and the people were so squeezed together that it was impossible to move. Finding themselves abandoned, their consternation became extreme. The officers, by putting on a show of confidence, succeeded in restoring the men to a certain degree of tranquillity; but were themselves overcome with alarm, on finding that neither compass nor chart had been left with them.

None of the party had taken any food before they left the ship; and hunger oppressing them, they mixed all the biscuit (some 25 lbs.) with wine, and distributed to each.

They succeeded in hoisting a sail, which had fortunately been left with them, upon a kind of mast which they erected. It was some time before they could persuade themselves that they were really deserted by the boats; but time passed on, and none returned.

Night now came on, and the wind freshening (increasing), the sea broke over them in all directions. In the morning a horrid scene presented itself: ten or twelve unhappy creatures had got jammed between the spars, of which the raft was composed, and had perished in that situation. Many anxious looks were cast around the horizon, in the hope that some of the boats might be returning to them—but in vain; none appeared—they were alone on the waters. The next night the wind and sea again arose, and numbers were swept off; and at the centre of the raft, several were smothered by the pressure of their comrades.

Firmly persuaded that they were all upon the point of being lost, both soldiers and sailors determined to relieve their last moments by drinking. They bored a hole in the head of a cask, and continued to drink, till the sea-water, mixing with the wine, rendered it no longer drinkable. Being now maddened with the wine, they boldly declared

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they would murder the officers, and then cut the ropes which bound the raft together. One of them, seizing an axe, actually began the dreadful work; but the officers rushed forward to quell the mutiny, and the man with the hatchet fell first. The passengers joined the officers. One fellow was detected cutting the ropes, and was immediately thrown overboard. A furious charge was made upon the mutineers, who now fell upon their knees, asking mercy; but, after an hour of deceitful tranquillity, another attempt was made. A general slaughter now took place, and the raft was strewed with dead bodies.

On the return of day, it was found that sixty-five had perished. Only one cask of wine now remained; and at length the survivors were driven to that pitch of hunger, as to be compelled to have recourse to eating the dead bodies of their comrades.

A third night of horror approached. In the morning, the daylight showed them ten or twelve more who had perished; all of whom, except one, were thrown into the sea.

At this period, a shoal of flying-fish fell on the raft; they were secured, and, by means of a little gunpowder and linen, a fire was made in an empty cask, and they were dressed and eaten.

On the fourth night another mutiny was attempted, but was speedily quelled.

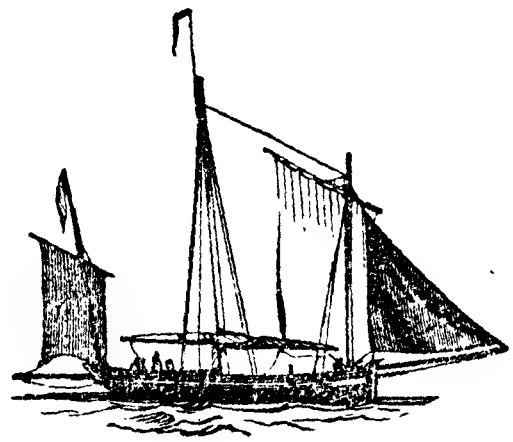
Only thirty persons now remained, many of whom had lost all the skin from their legs and thighs; and, from wounds and bruises, were not able to support themselves. Two soldiers, at this time, being discovered at the wine-cask, were immediately thrown into the sea.

Their number was now reduced to twenty-eight, fifteen only of whom appeared able to exist for a few days. For the safety of these, it was determined to throw the others overboard, which was done; and, however horrid the act, it was the means of saving the rest. After six days of suffering, the brig Argus, hove in sight, and took off the remainder, six of whom died soon after they were landed.

Such is the history of these unfortunates; only nine of whom, out of 150, survived. Of those in the boats, however, only two or three perished.

So badly were affairs managed, that a vessel which was sent to look after the wreck made three attempts, before they succeeded in reaching her; and, to their astonishment, found, after fifty-two days' lapse of time, three poor creatures on it, in the act of expiring; so that a few hours would have put an end to their misery and wretchedness.

About the same time, H. M. S. Alceste, commanded by Captain Maxwell, was wrecked, under similar circumstances, and at about the same distance from land, in the Straits of Caspar, to the west of the Philippine Islands. In this instance every person was saved, and brought to England.



A Chasse Mareê (French).

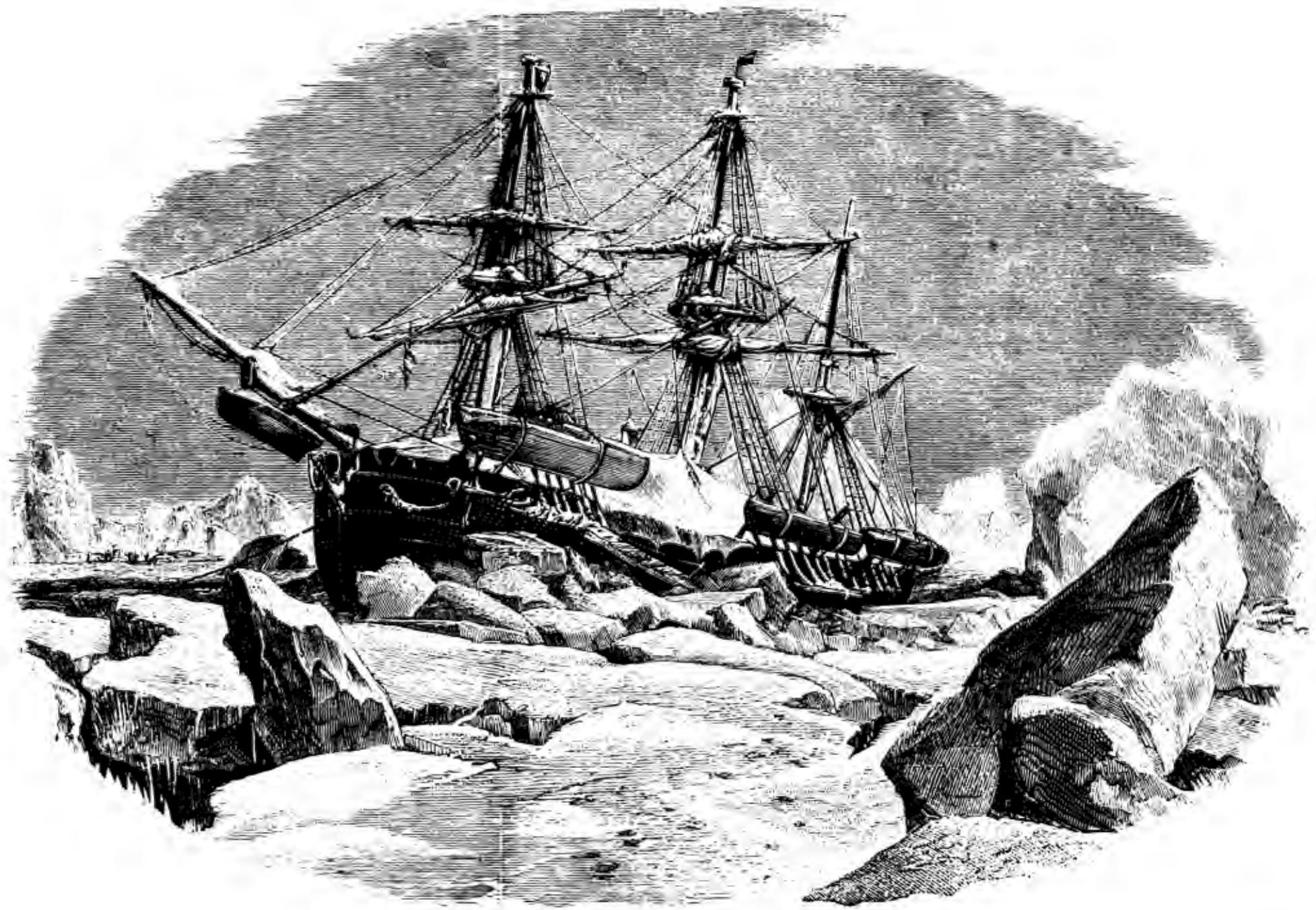
CHAPTER XII.

Arctic regions—Description of icebergs—The white bear—Greenlanders and their canoes—West India Islands—Sea-birds.

SAILORS, although they lead jolly lives ashore and afloat too, at times, are yet exposed to many dangers besides those I have named. Among these is one of which landsmen seldom think, but which has sent many a good ship to the bottom of the sea with all her freight of valuable merchandise, and still more valuable human lives. The list of missing ships, that is, those who have sailed away from their port and never again been heard of, is considerably increased by the numbers lost in the ice.

The northern part of the Atlantic, in the arctic regions,* is much encumbered with ice; and immense floating islands of this frozen water, detached from the main body, and called icebergs, approach, in the months of June

* The Arctic Ocean, or Northern Icy Sea, extends from 66° 30′ north latitude to the North Pole, and has communication with the Pacific Ocean through Behring's Straits on the north-east of Asia, and with the Atlantic on the north-west of Europe.



ON THE ICE.

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and July, so far south, as to add much to the danger of a passage between North America and England.

" Have you ever seen icebergs, grandpa?" asked Charles. " It must be a splendid sight, if they are like the pictures of them that I have seen."

They are so; and, when broken up by the summer sun, and drifted by the winds and currents into the more southern latitudes, they are truly magnificent, particularly when, rising in pinnacles to the height of eighty or a hundred feet, and upwards, the rays of the sun are reflected in brilliant colours on their glass-like surfaces. Where icebergs of a great height are floating, it is certain to be in very deep water; as there is always six times as much below the surface as there is above it. Thus, if an iceberg be fifty feet high above water, the part immersed will be 300 feet, and its whole height 350 feet.

Captain Parry in his " voyage of discovery to the arctic regions," had frequent opportunities of ascertaining the above fact. He thus describes a large iceberg, of which he took the dimensions.

" One of the Isabella's boats, which happened to be a short distance before us, went into a little creek on one side of it, which appeared the only place where it was

possible to get upon it, on the side we then were. On examining this place, however, they considered it too difficult for the attempt; so that, without any further examination, the boats pulled right round the berg. This was a labour of some hours; and, what was still more grievous, there was not a single place where we could possibly attempt to get up; the sides of the iceberg being as perpendicular as the walls of a house, and, at an average, between forty and fifty feet high. After performing a circuit round the enormous mass of ice, we returned again to the above-mentioned creek, where, with some difficulty, one of our men scrambled up. By means of a line which he made fast to the top, we all got up, and that without much loss of time; for the man who first ascended, on looking round, observed a white bear at a little distance from him. We prepared ourselves immediately to attack this formidable animal; some with muskets, and the others with lances and boarding-pikes. He at first advanced towards us; but, on perceiving that our approaches were mutual, took to his heels towards the opposite side of the berg. As we were, however, acquainted with its height, as well on that as on every other side, we made ourselves quite sure of securing him; and, in order to be more expediti-

ous, divided ourselves into two parties, for the purpose of hemming him in; but, very much to our disappointment, and contrary to our expectations, we found that he had leaped off the berg, at a place where we estimated its height to be about fifty feet. On looking over the precipice at this part, I observed several large fragments of ice floating on the bottom, on one of which he is supposed to have fallen, and to have been killed, as we did not see him afterwards. He was not very large; but we found the tracks of several large ones on the berg. The entrance by which we supposed they got on it, was through a kind of vault, or cavern, which led from the creek where we left the boats, to a small valley into which the sea flowed. After our fruitless chase of the bear, we proceeded to measure the iceberg, the dimensions of which are as follows:—

"Length, 2 miles and 649 yards. Breadth, 2 miles and 26 yards. Thickness, allowing 51 feet to be the average height above the surface of the sea, as was found to be the height at the place where it was measured, 357 feet. Weight, about 1,292,397,673 tons.

"For the sake of amusement, it was calculated what space the quantity of ice in this iceberg would cover, if reduced to the thickness of six inches, which, it was pre-

sumed. would be sufficiently strong for the purpose of skaiting. From the result of this calculation, it would appear to be sufficient to cover a space equal to about 3505 square miles."

The following is a description of the different forms in which ice is met with in these regions.

Those stupendous masses of ice fallen in with in Davis's Straits, and sometimes near Greenland, are called icebergs, or ice islands.

When a number of pieces of ice are collected together, in close contact, in such a way as that they cannot be seen over from the mast-head, this is termed a *pack*. When the collection can be seen across, if it assume a nearly circular form, the name of *patch* is applied; and it is termed a *stream*, when of an oblong form, however narrow it may be, provided the continuity of the pieces is preserved.

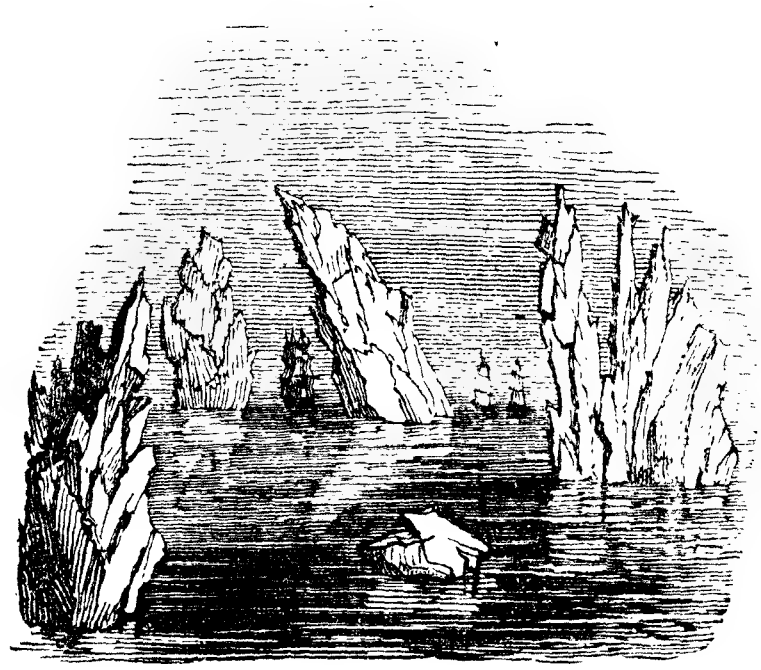
A *field* is a continued sheet of ice, so large that its boundaries cannot be seen over from the ship's mast-head.

Pieces of ice of very large dimensions, but smaller than fields, are called *floes*. Thus, a field may be compared to a pack, and a floe to a patch.

Small pieces which break off from the large masses, are

called *ice-brash*, and may be collected into streams and patches.

Ice is said to be *loose*, *open*, or *drift*, when the pieces are so separated as to allow a ship to pass through them, as shown in the accompanying sketch.



A *hummock* is a protuberance raised upon any plane of ice above the common level.

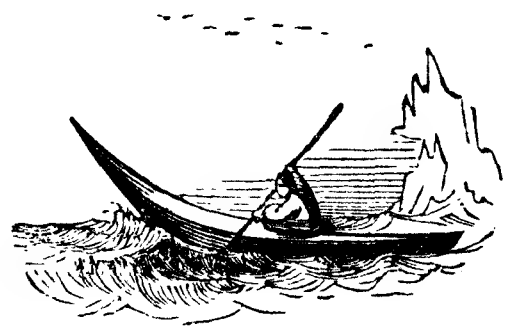
A *calf* is a portion of ice which has been depressed in the same manner as a hummock has been raised; namely, by pieces of ice mutually crushing each other.

A little account of the Greenlanders and their kajaks, or canoes, may not be uninteresting to my readers.

The people are rather below the ordinary stature, but appear well proportioned and stoutly built. Their dress is made chiefly of the skin of the seal—an animal very common in these regions—and consists of a sort of frock and small-clothes, with the hairy side of the skin generally outermost. They wear boots of the same material as the rest of their clothes; but, in this instance the hairy side of the skin is innermost.

Their canoes are made of seal-skins, sowed tightly together on a wooden frame. They are in general between sixteen and eighteen feet in length, but very narrow, their breadth seldom, if ever, exceeding two feet. They are pointed at both ends, so as to move either way.

In the middle is a circular hole, in which the Greenlander sits, apparently with as little fear of being upset, as if he were seated in the finest barge. Around the rim of this hole is fastened the tail, or lower edge, of their seal-skin jackets, by which contrivance the canoe is completely water-tight, even in the roughest sea. The above is a sketch of one of these canoes.



They row with one paddle, which is between five and six feet in length, small in the middle, at which part they hold it, and broad at each extremity. By striking alternately on either side, they get through the water with a velocity equal to, if not exceeding, the swiftest row-boat.

Owing to their dexterity in managing their canoes, I believe the Greenlanders are perfectly safe, nothwithstanding a person unaccustomed to them would be in danger of upsetting. What we should be apt to consider as defects in these vessels, in other parts of the world, are in this country essential qualities: I allude here to their lightness particularly; for whenever they are in danger of being beset by the ice, the natives have only to get upon it, and they can easily carry their canoe on the shoulder, or even under the arm. Their being low in the water is another advantage, for they can approach seals and birds very closely without being perceived. All their fishing and fowling apparatus—namely, spears, harpoons, lines, and lances—are, with the exception of an inflated seal-skin, which is stationed behind, placed before them on the canoe. These, although simple, are well adapted to the respective purposes for which they are intended. The harpoon, which they employ for killing the seal, has the inflated seal-skin

attached to it by a long thong. This buoy answers a double purpose; as it points out, in the first place, the course the animals take, so that they can be more readily followed; and, secondly, tends to exhaust them; since, whenever these animals are wounded, they instantly dive, and, by this constant struggle against the buoyant skin, in a short time fall a prey to their pursuers.

I have, however, my young readers, got a little out of my course for Port Royal, to have travelled thus far into the arctic regions; and I must now make all sail back again to my ship, which I left ploughing her way across the Atlantic Ocean. But, as no event of consequence occurred during the passage, I trust I shall be pardoned this digression.

We at length joined the squadron at Port Royal, in Jamaica, one of the West India Islands.

In mentioning the West India Islands, it will not be necessary for me to state more, than that they lie between 10° and 25° north latitude, and 60° and 85° west longitude. The largest of them are Cuba, St. Domingo, Jamaica, and Porto Rico; besides which there are numerous small islands, and some little better than mere rocks. Those which are the most westerly, are generally called

the Windward Islands, and the other small islands, to the eastward, which are Martinique, Barbadoes, Guadaloupe, &c., are called the Leeward Islands.

At Jamaica, most of the crew, when not on duty, were allowed to go on shore, to stretch their legs, as they said; as if there was a possibility of their being cramped in a first-rate, with so much room to run about. However, my young readers, I can assure you it is a very pleasant thing to have a run on shore, after a voyage; and I cannot express to you the delight I myself experienced, on setting foot upon the dry and solid ground.

It is rather remarkable, that the persons who are accustomed to sail between these islands, have so much experience in the existing currents, that they are never at a loss to find out the direction of north; and do not, therefore, encumber themselves with either compass or quadrant; independently of which, they can hardly sail twenty-four hours without making (seeing) one of the islands. Should such, however, not be the case, they have an infallible remedy; for each island has its peculiar sea-bird, and wherever these may wander in the day-time, they invariably seek their own island at sunset. The captain, therefore, never fails to know, from the direction in which he

sees any particular bird fly, towards sunset, to what island it is going.

The vessels trading between these islands are generally small schooners, and formerly the mails were carried in them.

CHAPTER XIII.

Squadron starts to cruise on the east coast of North America—The Undaunted strikes on a sunken rock—Gets off again, and makes sail to rejoin the squadron—A fothered sail to stop the leak—Chain pumps at work—The water gains on her; she is sinking—Her crew get off in the boats—The Undaunted founders—Description of press-gangs—Ned Stokes, the pressed boy, afterwards a post-captain—The tender.

SOME days elapsed, during which our brave seamen were allowed to enjoy themselves on shore at Port Royal; and after this we were despatched to cruise on the east coast of North America. In company with us, were the Undaunted and Termagant, our old companions, and two or three other vessels—transports with troops on board.

For some time we kept cruising about, keeping a bright look-out for the enemy, but none appeared in sight. Days and weeks wore on; during which we visited many of the islands; and the transports left their troops at the different stations according to the orders they had received, each day we looked for something to rouse us, but in vain.

The Bahama, or Lucaya Islands, are in the Atlantic

Ocean, near the east coast of North America. The group comprises about twenty islands which are inhabited, and there are as many as 3000 islets (or small islands and rocks), comprising together an area of 3020 square miles, and a population of upwards of 35,000; but there were not so many people when I was there. The principal islands are New Providence (containing the capital, Nassau), St. Salvador, Harbour Island, Great Bahama, Long Island, Eleuthera, and Berry Islands. They are in general fertile. The population consists of about two-thirds blacks, and the rest whites and people of colour.

A great many of the inhabitants, from their occupation, are called wreckers.

These are constantly employed in the humane business of rescuing shipwrecked vessels, with their crews and cargoes, from the waves. They sail in small, flat-bottomed sloops, just fitted for the seas which they navigate. They are excellent sailors; are familiar with all the keys (small islands), rocks, shoals, and breakers (sunken rocks, upon which the sea breaks with great violence); and with alacrity and courage encounter any danger or hardship.

They are licensed by the governor, and receive salvage (a certain sum per cent.) on all property they rescue from

the waves. By day they are always cruising; at night they usually put into the nearest harbour. Their great places of resort are, the Florida Gulf, the Hole in the Wall, and the Hogsties; which are general places of rendezvous for all descriptions of vessels in these seas.

The number of these vessels is very great, forty sail being sometimes seen in one inlet.

The island of St. Salvador was the first land discovered by Columbus on his voyage in the year 1492. New Providence Island was occupied by settlers from England in 1629, and held by them till 1641, when they were expelled by the Spaniards, who, however, made no attempt to settle there, and the English again colonized it in 1657; but it fell into the hands of the Spaniards again in 1703, after which it became the rendezvous for a horde of pirates, who were eventually extirpated, and the celebrated Black Beard, or John Teach, of whom most horrible accounts have been published, was the leader of the Buccaneers. He was killed off the coast of North Carolina, in 1718. The islands were soon after abandoned by the pirates. The Bahamas are under the jurisdiction of the English.

Our little squadron kept well together, and no event of importance occurred for several days.

One afternoon, whilst passing between two of the Bahama Islands during a heavy gale, we observed the Undaunted, a little to windward of us (ahead), suddenly stop, and her mast and sails shake with tremendous force. We instantly guessed what was the matter—she had struck upon a coral reef. As we were going right before the wind, we were soon abreast of her.

By this time, however, she had swung off again, and was making all the sail she could, with a fothered sail under her bows, with the intention of regaining her lost way. (A fothered sail is a spare sail swung round the bow and under the bottom of the ship, and secured as tightly as possible to endeavour to stop the leak.) We observed her chain pumps were at work, and whole cataracts of water gushing from them; while clear white jets spouted from all the scuppers, fore and aft. (Scuppers are holes along a ship's side, level with the decks, to allow the water to run off from them.)

Shortly after, the British ensign seized (set up or fixed) union down, in the main rigging, gave sign of the utmost distress.

Still she kept afloat, and, though behind her companions, she yet moved onwards. The leak, however, must have

been a very large one; for the water in her hold increased most rapidly, and she soon began to roll heavily, till, at length, the yard-arms dipped alternately in the water, and she reeled like a drunken man.

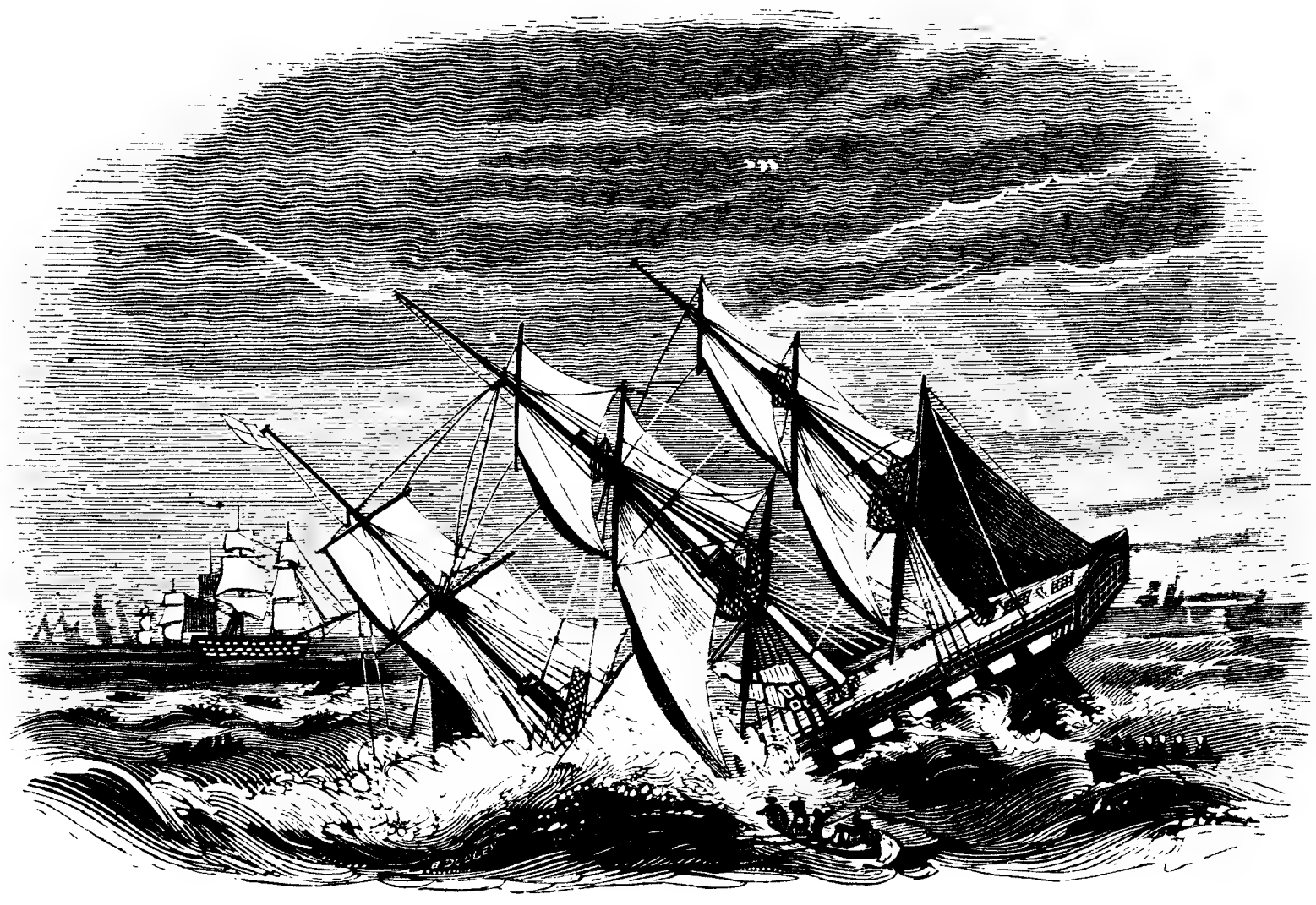
Suddenly a splash was heard—one of the forecastle-guns was hove overboard; and, watching the roll of the sea, both broadsides, one after another, followed.

By this time the gale had given way to a light breeze; and, though there was still a great deal of motion in the water, the waves were gradually subsiding into ripples, and the boats from the other ships were enabled to come to her assistance.

The water still gained upon her, and it became evident that she could not long remain afloat. It was, therefore, time for them to begin to save all they could from the sinking ship. Her boats were got out, and soon the boats of the other ships, who had all hove to, joined them. Now were to be seen handed over the unfortunate frigate's sides, hammocks, bags, officers' kits (clothes &c.), and everything of value that could readily be got hold of. The men were told off (every man called by name amongst the gang with whom his duty was performed), and passed as quietly over the side, by watches, as if at muster—all the officers last.

She was now seen settling in the water. The captain had not quitted her, but remained uncovered at the gangway, and with tears in his eyes. Few can imagine the poignant feelings that would agitate the breast of a commander, at beholding the destruction of the ship with which he has been intrusted, and which, under his care, has braved the dangers of the deep, and nobly stood forward in the battle, and conquered her enemies—all this must recur to his memory, and in such manner, that he only who is in a like position, can feel, but not describe.

The noble captain was the last man to leave the ship; and this he appeared to do reluctantly. At last he descended the side, and stepped into the boat alongside—and but just in time; for it had scarcely got beyond the reach of the yard-arms of the ship, when the latter made a heavy lurch forward, and her bows were immersed in the dark waves. She could not lift her head again—the next wave rolled on, and the hull of the ship was deeper down in the briny element. At length none of it was visible. As she went down with all sail standing, her sinking was gradual; and though the hull was lost to sight, her topmast sails were filled by the wind—but it was only momentary; the fore-topsail sunk fastest: at last all was gone but the white



THE UNDAUNTED SINKING.

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pennant on the maintop-gallant-mast-head; it fluttered for an instant in the breeze, and the last remnant of the ill-fated frigate had vanished for ever.

"What a shocking catastrophe! But were the crew all saved, grandpa?" asked Edward.

They were, my boy, and were distributed among the other ships. It was rather fortunate for us; for we were short-handed—that is, we had not our full complement on board—and we were thus enabled to make up our number.

We had sailed from England rather short of hands; for my uncle did not like pressing men, and, without resorting to that method, there was, in those days, great difficulty in getting a ship's crew together.

You may have heard, my young readers, of press-gangs; but you may not know what they really are. I will tell you.

A press-gang is a body of seamen, twelve or fourteen in number, commanded by a lieutenant or mate, and all armed with bludgeons, cutlasses, and pistols, who visit the different public houses in sea-port towns, where seamen resort; and those who are not *willing* to join the naval service, are carried off by *force*, and sent to any ship that may be in need of men. These are thence called pressed men.

In war time, seamen who do not wish to join a king's ship, are obliged to hide themselves very securely to avoid being seized by these gangs. When they go to a public house—which they are generally obliged to do, in strange towns, to procure lodgings for the night—they meet in bodies of ten or twelve, so as to be equal in strength to the press-gangs, that some of their number may chance to escape, if the gang should surprise them. This very frequently happens, and serious fights between them ensue, in which many on both sides are wounded. Those who are seized are sent off to a small vessel, called the "tender," lying in the harbour, where they are closely confined, below in the hold, until drafted into a ship going to sea. Many poor fellows, who were not sailors, have been seized by the press-gangs, because they appeared strong healthy men, and likely to be of service on board. Some of them with wives and families at home hourly expecting their return. And it sometimes happened that the poor fellows remained at sea many months before their families, who were left in the greatest distress, at times wanting the means of subsistence, could learn what had become of them. These cases did not very often occur. But it is a sad reflection, that the services of the country

ever required such cruel means to be adopted to man their ships, as that of depriving a poor family of its only support and protection. But press-gangs were only used in cases of great emergency in war time, and it is to be hoped that their services may never again be required. It is a very hard task for the sailors who form these gangs, to be compelled to force men from their homes and families, without a moment's notice; and I have known many, much to their credit, refuse to join one.

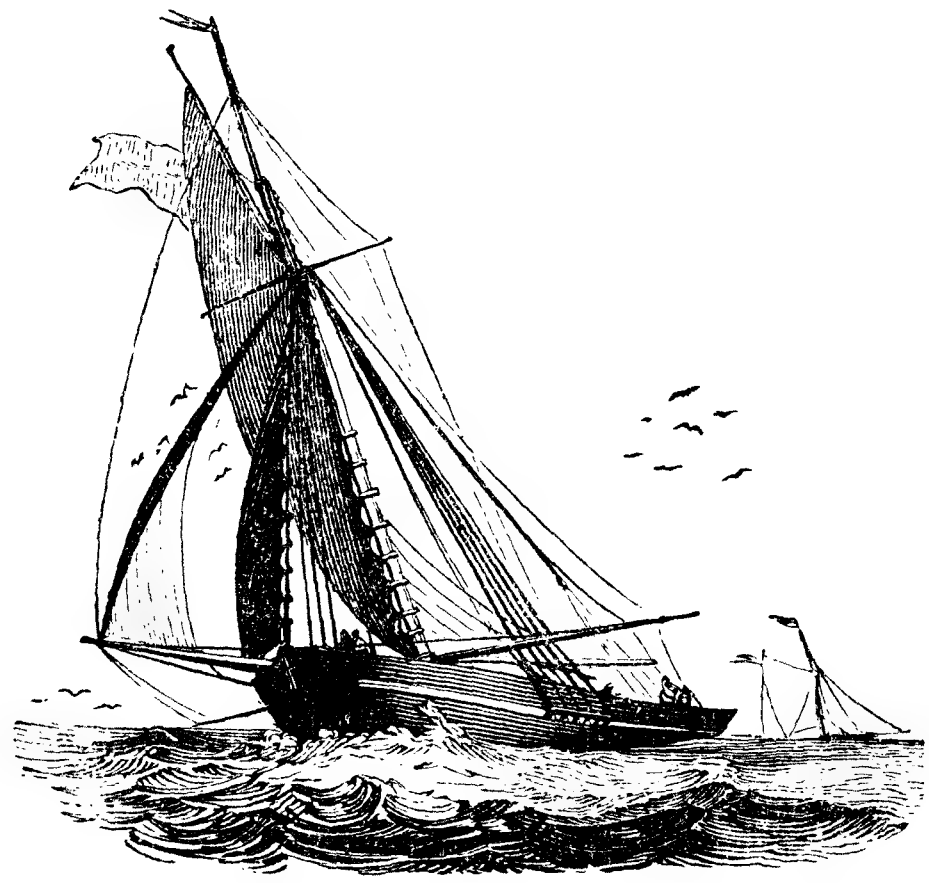
I well remember the case of a poor boy who was seized by a press-gang, whilst begging at the gate of a gentleman's house; and, as it happened happily for him, I will relate it.

After his seizure, he was sent on board the tender.

Tenders are vessels of different sizes, usually cutter rigged, used to attend on the admirals both at sea and at the different stations; and in foreign ports for conveying orders, drafts of men, &c., from one ship to another, as occasion may require: they are generally armed vessels.

The poor pressed boy was placed in the hold, which was crowded with men and lads, who had either been pressed, or were sent away by the civil power for misdemeanors. Some were sober and sorrowful; others were

intoxicated and noisy, and incessantly trying to annoy the rest. It was a scene of dreadful confusion, and the stench and heat were scarcely endurable. Every now and then a quarrel took place, and severe blows were exchanged, so that there were bruised features and even fractured limbs ;



MAN-OF-WAR TENDER.

but no one in authority interfered or took the slightest notice of their proceedings; they were left entirely to themselves; and, as the number of intoxicated kept in-

creasing, they rolled over or trod upon the unhappy creatures who did not, or could not, give way to the indulgence of drunkenness. Not unfrequently a lurch or roll of the vessel would throw some, who could not preserve their balance, with violence against the sides of the ship, and bruises and wounds were the consequence.

Such a spectacle as this could not give the poor lad, who was called Ned Stokes, a very favourable opinion of the life of a sailor; and though he had once earnestly wished to become one, and had in consequence rather willingly followed the press-gang; yet, in truth, he was now heartily disgusted, and as earnestly wished himself ashore. But if the occurrences of the day (although only a dim twilight in the hold) could thus affect him; how much more were his sufferings increased when night came on, and all was utter darkness; whilst the same debauchery, noise, and fighting, continued; and, the grating being placed over the hatchway, scarcely a breath of air could be felt by those below. The following morning the tender arrived at her destination, and ran alongside the guardship at Spithead (a safe anchorage for ships of war, between the Isle of Wight and Portsmouth Harbour). Delighted was the poor boy to escape from the miserable

place in which he had spent a day and night; and cool and refreshing was the breeze that fanned his parched and fevered cheeks, when, with the whole of his late companions, he ascended to the deck of the guard-ship, where they were ranged for inspection; and, one by one, summoned into the office to give their several names and occupations. At length Ned's turn came; and, having given his name, the clerk, noticing the haggard and distressed countenance of the lad, demanded, "And where have you done duty, Ned?"

"What, sir?" asked Ned, who did not exactly comprehend the question; "did you ask me where I had done my duty?"

"Yes," responded the clerk, in a tone of banter, as he mimicked the lad's manner, "that's what I asked you."

"Well, then, I've done it at Camberwell, in London," answered Ned, alluding to his former course of life; "but I hope you are not going to keep me here."

"Oh no," replied the clerk, with mock respect, and trying to puzzle the lad, "your services are too valuable to be confined to a guard-o (guard-ship): in fact, I shouldn't be surprised if they made you an admiral at once."

"What!" uttered the astonished Ned, as the vision of

a cocked hat and sword rose before him: "well, then, I'll do my duty anywhere and everywhere."

This reply was greeted with a roar of laughter from the clerk and his assistants; and poor Ned having declared that he had never yet been to sea, was entered accordingly in the muster-books, and ordered to go below. It was a hard trial for the poor fellow; he knew nobody, and no one either knew or cared for him; but still his admiration was excited by all he beheld and witnessed; and he found ample food for contemplation.

The next day he was drafted, with several others, into a seventy-four, that sailed in a few hours afterwards; and if his admiration had been raised by a ship at anchor, how greatly was it increased when, with the canvass spread, the beautiful craft glided rapidly down Channel, and every evolution was performed with the precision of clock-work.

The line-of-battle ship was new, and destined for the Mediterranean, and in a short time Ned was upon the open sea. He had reconciled his mind to circumstances; he was now a sailor, and his readiness to learn induced the captain to take notice of him. He was placed on the quarter-deck, as midshipman. His good conduct and bravery, after having served the proper time (six years), got

him his commission as lieutenant. He afterwards became a post-captain, and is now one of my oldest and most esteemed friends. Such may be the reward of a strict attention to our duty, in whatever course of life Providence may place us.

You see, my young friends, that if Ned Stokes (I should now call him Captain Stokes) had followed the sinful and pernicious propensity of drinking with his former associates, he would have been an idle and a careless man, would never have obtained the notice of his captain, or any of the officers, and, in all probability, never have risen above the rank of a common sailor.

Another case of impressment, which I well remember, occurred shortly after I had commenced my career as a sailor. It happened on board a ship of war lying at Plymouth, under sailing orders for a foreign station, and waiting only for a full complement of hands. It was also at a time when men were so scarce that the jails were resorted to, and some of the ablest felons were selected to make up the crews.

The poor fellow, of whom I am about to tell you, came on board of us, with a draft of seamen, from the flag-ship, and a number of these convicts.

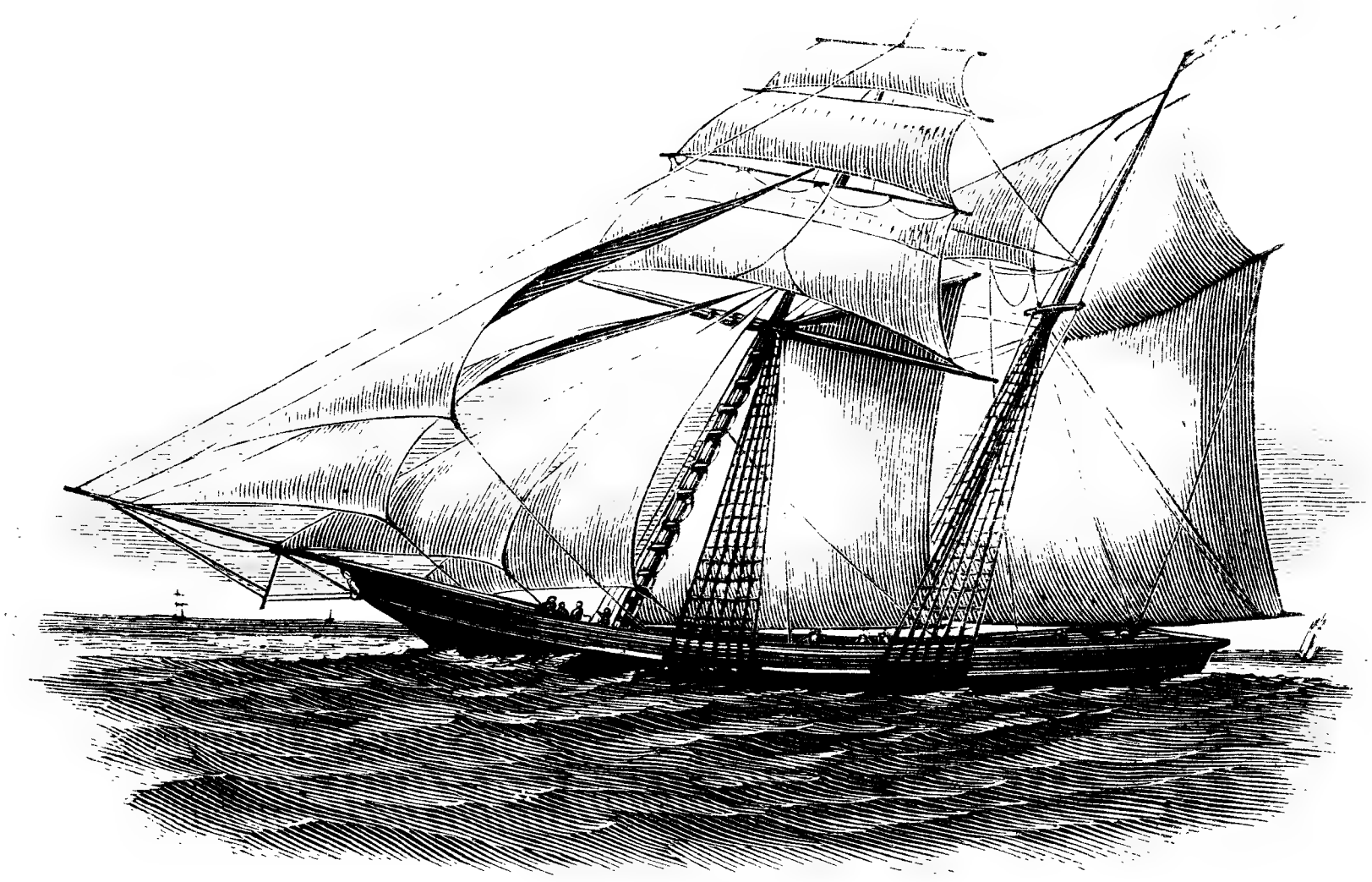
He had been a sailor from his boyhood; and, shortly before he joined us, had served on board a merchant vessel as mate. His mother had been in very indigent circumstances; in fact, her poor sailor boy was almost her only support.

By strict attention to his duty, and care of all he gained, the son had at length rendered his mother's home comfortable, and had just arrived in England from a voyage, full of joyous anticipation, when he received the melancholy intelligence that his mother was at the point of death. He hastened home, and reached it only in time to receive her farewell benediction. Thus was the cup of joy dashed from his lips.

Before the earth had closed over the remains of his parent, the press-gangs were actively on the alert, and the poor fellow fell into their hands. He was not even allowed to lay his poor mother in the silent grave; he kissed the clay-cold bosom on which he had hung in infancy, and, with stern serenity, yielded himself a prisoner. He loved his country, and would not have shrunk from its service in the hour of battle; but at such a moment to be forced away, it was draining the cup of misery to the very dregs.

He was a good seaman, but he, unfortunately, fell into

the hands of a cruel and even brutal captain, who treated his silent grief with insult. (This captain was afterwards dismissed the navy for cruelty.) The poor fellow was treated with every indignity, and compelled to perform most of the menial offices of his station. It was a truly happy change for him when his services in this ship ended, and he entered another where his sufferings met with commiseration, and his meritorious conduct and ability, as a seaman, were duly rewarded by a kind and gentlemanly captain. I have not since fallen in with him; but I have no doubt, from what I saw of him, that his general good conduct gained him friends, and that he has probably, since the close of the war, again entered the merchant service, in which it is very possible he may have the command of a ship.



FRUIT SCHOONER.

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CHAPTER XIV.

Havanna, in Cuba—Description of the island—Difficulties of navigation—Capture of the island by the English—Florida—Grandpa joins a store-ship with powder on board—The ship is on fire—Hoisting out the boats—Providential preservation—The bulkheads—Furling sails—Wearing round—The explosion—Admirals' rank—Loss of the Queen Charlotte by fire—Nelson as a school-boy.

AFTER the loss of the Undaunted, we made all sail for Havanna, in Cuba. This is the largest of the West India Islands, situated at the entrance of the Gulf of Mexico. This island was discovered by Columbus in the year 1492, and is now the most important of the colonies of Spain, though how long it will remain so is a problem difficult to solve. The inhabitants have for some years made strenuous efforts to free themselves from Spanish rule. Cuba is about 750 miles in length, with an average breadth of from 50 to 60 miles, and has an area of 48,489 square miles.

Along the coast of Cuba are many keys and small islands, which are included in the same government with

the large island. The navigation of the coast is very unsafe, on account of the rocks and shoals which encompass it in almost every direction, and often extend from two to three miles into the sea. The broken outline of this vast extent of coast, however, affords more than fifty ports and anchoring places, which are equally safe and easy of access.

The soil of Cuba is so productive that it yields two, and even three, crops of corn in a year. The fields, during the whole year, are covered with aromatic plants and trees in blossom. The climate is dry and warm. It is, however, in common with all the West India Islands, subject to terrific storms of thunder, lightning, and wind, accompanied with tremendous showers of rain and hail. Whole hamlets and villages have sometimes been swept away during these hurricanes, and an immense amount of life and property destroyed.

They are also frequently visited by earthquakes, and violent shocks, in which very great damage is done.

Only a short time since, Guadaloupe, Antigua, St. Domingo, Martinique, and others of the West India Islands, were visited by this dreadful calamity, and whole towns and villages entirely destroyed. It was upon Guadaloupe,

however, that the full severity of the infliction fell. Accounts detail the entire destruction of the town of Point-à-Pitre, and other places, and of the loss of 2000 lives. What was spared by the earthquake, perished by the fire, which burst out a few minutes after the houses fell. A vast amount of property, in the country parts of the islands, was also destroyed; whilst the mills, the curing and boiling houses for making the sugar, were all demolished. Indeed, it appears impossible to estimate the actual amount of loss sustained during this awful visitation. The number of deaths was estimated at 4000, while the shocks were felt over 3000 miles.

The coasts of the island of Cuba are well known to be unhealthy; but this is not the case with the high lands. It never freezes here, not even on the highest mountains. Among the insects, of which there are very many, are the mosquitos. These are extremely troublesome neighbours, as all who have had anything to do with them have experienced. Another, so small, as to be almost invisible, called the greger, is also very troublesome.

The true riches of the country consist in its great articles of export—sugar, coffee, tobacco, wax, cocoa, molasses, rum, maize, &c.

The population of Cuba, in 1871, amounted to 1,400,000 souls, of which 765,000 were whites; the rest being free mulattoes and negroes.

In 1762, a formidable expedition was sent from England to take possession of Cuba; which, after its junction with the naval force that had been already serving in the West Indies, consisted of 19 ships of the line, 18 small vessels of war, and 150 transports, which conveyed 12,000 troops. The whole of the fleet appeared off Havanna June 6th. 4000 more troops went from North America, in July, to reinforce them. The Spaniards, in whose possession it had been for more than two centuries, used every effort to defend the city, but in vain; for, though the English were several times repelled, the Spaniards at last surrendered, August 13th. The booty obtained by the English was great; about 3,000,000 of dollars, in specie, and a large quantity of goods, fell into their hands, besides a great quantity of munitions of war, nine ships of the line, and four frigates. In 1763, the conquerors, notwithstanding the high opinion they had of the importance of Cuba, restored it to Spain, in exchange for the Floridas.

Florida is a country in the United States of North America, and forms part of the eastern boundary of the

Gulf of Mexico. It is about 400 miles long, and 140 miles wide, and contains about 50,000 square miles. The principal towns are Tallahassee, the seat of government; Pensacola, St. Augustine, New Smyrna, and St. Mark's.

Florida, like Cuba, abounds in vegetable productions of most luxuriant growth. It is also remarkable for the majestic appearance of its towering forest trees, and the brilliant colours of its flowering shrubs. The pines, palms, cedars, and chestnuts, grow to an extraordinary size and height. Some of the laurels are uncommonly striking objects, rising, with erect trunks, to the height of 100 feet; forming, towards the head, a perfect cone, and having their dark-green foliage silvered over with milk-white flowers, frequently eight or nine inches in diameter. There are eight different kinds of oak, among which is the live oak, which, after forming a trunk from ten to twenty feet high, and from twelve to eighteen feet in circumference, spreads out its branches, in some instances, fifty paces on every side. The cypress, generally growing in watery places, has large roots, like butresses, rising around its lower extremity; then, rearing a stem eighty or ninety feet, it throws out a flat, horizontal top, like an umbrella; so that, often growing in forests, all of an equal height, they

present the appearance of a green canopy, supported on columns in the air. Many rich fruits, particularly limes, prunes, peaches, grapes, and figs, grow wild in the forests. St. John's River, and many of the lakes, are bordered with orange groves; and olives are cultivated with success.

Some of the most important productions of the country are sugar, coffee, cotton, rice, indigo, tobacco, vines, olives, oranges, and many other tropical fruits. The waters contain various kinds of excellent fish, and they also abound in alligators and other reptiles. In the summer months it is scorching hot at mid-day, and in the depth of winter it very seldom freezes. From the end of September to the end of June, there is not a finer climate in the world.

But it is time, my young readers, that I now return to my story.

About this time we had added to our squadron a fast-sailing store-ship, having on board a quantity of small arms, and 800 barrels of gunpowder, together with supplies for the troops.

One of our senior midshipmen was appointed to this vessel, to take charge. I was allowed to go with him as his first assistant (or first-lieutenant, if you like). I was a great man in my own estimation, then, I can assure you.

though only seventeen years of age. But, however, a circumstance occurred here which made an indelible impression on my memory.

We had not left the body of the squadron many days when the ship took fire, in consequence of some lighted tobacco having fallen amongst the spare sails that had been indiscriminately stowed around the main magazine, built in the midship of the vessel, for the purpose of security.

The first symptom of the calamity that had befallen us was observed at two o'clock in the morning, when a dense smoke was seen to arise from the main hatchway; and, as every one was aware that the powder was stowed away in that part of the ship, it is impossible to describe the consternation of the crew.

My companion and superior officer knew it required the exertion of every one in the ship to extinguish the smothered fire; and we also knew that we were many leagues from the nearest land: we had lost sight of the squadron, as I have said, some days before. It was now that the energy of the officer was required; and, after a moment's consideration, he decided upon hoisting out all the boats and towing them astern of the ship.

This having been accomplished, he had them all cut

adrift, and addressing himself to the ship's company, pointed out to them that nothing could save their lives but the most decided exertions to extinguish the fire; since it would be almost as well for them to be blown up as to attempt their escape in the boats during this season of the year, when hurricanes and violent tempests were of so frequent occurrence, that it was scarcely possible they could gain any point of the nearest land without encountering one of them, in which they must all perish. There was also a danger of their falling into the hands of pirates, when they all knew what would most probably be their fate.

On hearing this and witnessing his example, all hands set to work in good earnest; and by dint of the wash-deck-pump and the few fire buckets we had on board, we were enabled to prevent the smoke from ever becoming flame, and at the expiration of the next day we had the satisfaction of having extinguished every appearance of fire. (In the present day all large ships, and also many small ones, carry to sea one or two fire-engines, and a number of fire-buckets for service in cases of fire.)

We now cleared away everything from around the main magazine; and, on closely examining it, discovered that

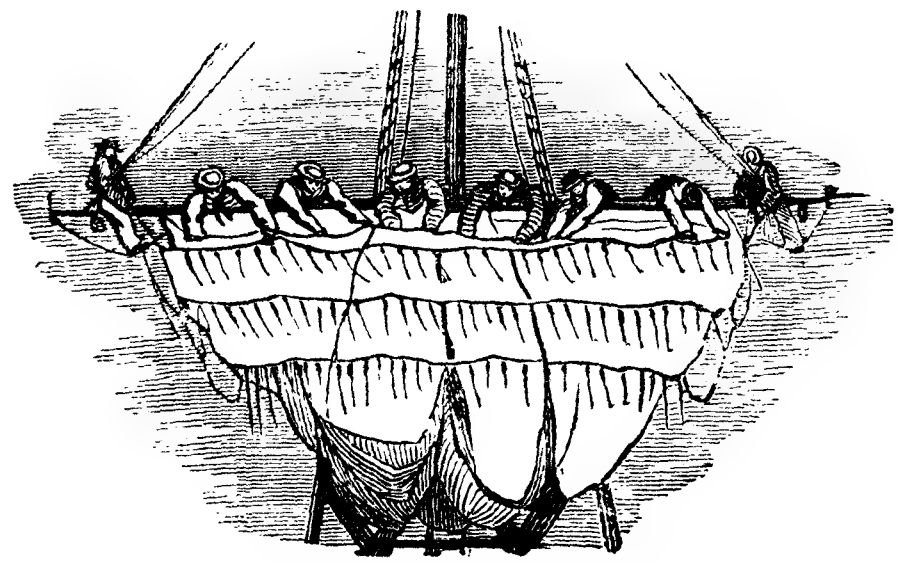
the bulkhead, which separated the powder barrels from the main hold, was so nearly calcined (burnt), that the carpenter pushed his finger through it without much exertion. You may imagine the feelings of the men when they discovered what a narrow escape they had met with; and, on returning thanks to our Creator for this miraculous preservation, which we did publicly on the quarter-deck, our prayers came from the bottom of our hearts.

Having furled all the sails on the main-mast when the fire was first discovered, got down all the rigging we could spare, and contented ourselves with wearing round occasionally, we were nearly in the same place as when the fire commenced, and had never lost sight of our boats, which were easily recovered.

"What is furling the sails, grandpa?" asked Charles.

"Furling a sail is the act of gathering it up into a small compass along the front of the yard, which is done by passing a platted rope (called a gasket) round the sail and the yard at certain distances, and fastening it. The annexed sketch shows the method of reefing a topsail; in which case only a portion of the sail is drawn up to the yard, and secured by the reef-points (short pieces of rope fixed on each side of the sail). The men at each ex-

tremity of the yard, are hauling upon the earings, which are fixed at each end of the reef-band, to draw up that part of the sail which is to be reefed. The men on the yard, who are standing or resting upon the foot-ropes, are



gathering together the intermediate parts of the sail, until the row of reef-points are brought to the yard; the points are then passed over the yard and tied to those behind it. The operation of furling includes the whole of the sail, and its appearance, when furled, is represented in the drawing of the frigate off the Owers.

We very luckily fell in with the squadron a few days afterwards, and were relieved from the charge and responsibility of keeping so much powder on board.

"What is a bulkhead, grandpa?" asked Charles. I don't think you have told us what that is? And what is the meaning of wearing round?"

"Right, my boy; I don't think I have, but I should have done so.

A bulkhead is a partition, or separation between the decks:—thus the partition at the captain's cabin, which separates it from the quarter-deck, is a bulkhead; the partition in front of the admiral's cabin, separating it from the half-deck, is also a bulkhead; and in every other part of the ship, where wood frameworks or partitions are run up between the decks, they are called bulkheads. When a ship meets with an enemy, the order that is first given is to "clear the decks for action." All these bulkheads are then either removed, or slung up under the beams of the decks out of the way; for if left standing, a shot might strike and knock them in pieces, and drive the splinters about in all directions, causing more mischief than the shot itself.

Wearing round, or the act of veering, is performed in this manner:—

The spanker is brailed up, and all the after sails are clued up (which is sometimes called "taken off"); the

helm is put a-weather, or to that side on which the wind is blowing; and as the ship's head pays off (turns round) until the wind is directly aft, the yards are gradually braced round so as to be square (right across the deck). The ship, by the action of the helm, will still continue to go round, and the yards must now be braced round also, so as to allow the sails to receive the force of the wind upon the opposite tack, when the ship is said to be about, or wore round.

"Have you ever," asked Edward, "seen any other ship on fire, grandpa?"

"I have, my boy, in my career, both in action and on the open sea, witnessed this misfortune, the worst that can happen to a ship; as there is no possibility of escape from it, except by the boats, which may not hold half the number of those on board—and besides, it is likely they may be so far from land, that it would be almost a miracle if they ever reached it.

I once saw a French ship which took fire while engaged with a British frigate. After burning several hours, she at length blew up. The explosion took place by night. This is a very grand, though a truly awful sight. In the tremendous burst of flame that rushes up into the dark

blue sky, immense pieces of timber, spars, &c., are hurled to a great height in the air, and all rendered distinctly visible by the intense illumination of the fire. At the same instant a stunning and deafening report breaks through the stillness of night, after which all is silent as before. The ship continues to burn until all is consumed above the water's edge, when the waves rush in, and, amidst dense columns of smoke and vapour, the remnant of the hull sinks to the bottom, and all is gone for ever.

I will relate to you the destruction of the Queen Charlotte, a line-of-battle ship of 100 guns, which took fire off the harbour of Leghorn, on the 17th of March, 1800.

The Queen Charlotte was commanded by Captain Todd, and was, perhaps, one of the finest ships in the British navy. She was launched in 1799. In the early part of the year 1800 she was sent into the Mediterranean, and was the flag-ship of Lord Keith, the commander-in-chief on that station.

Admirals in command of a squadron hoist a flag according to their rank in one of the ships, which is then called the flag-ship. The rank of an admiral is known by the colour and place of his flag on the masts.

The rear-admiral, which is the next step in promotion above a post captain, hoists his flag at the mizen mast-head. There are three steps, or grades, of rear-admirals. The rear-admiral of the blue is the first step; the rear-admiral of the white the second; and the rear-admiral of the red the third.

The next three steps are, the vice admiral of the blue; the vice admiral of the white; and the vice admiral of the red. Vice admirals carry their flags at the fore-mast head.

The three following steps are, the admiral of the blue, the admiral of the white, and the admiral of the red. Admirals hoist their respective flags at the main-mast head. This last is the highest rank that can be attained in the service, except it be that of lord high admiral; which rank is seldom held by any but one of the royal family. The duties of this office are vested in a board of commissioners, called the Lords Commissioners of the Admiralty, who have to exhibit before parliament the state and requirements of the navy, before any sums of money can be granted for its support. The Lords of the Admiralty have the management of all the dockyards, naval hospitals, victualling departments, and in fact everything respecting the navy, and almost all the appointments of officers to

different ships and stations rests with them. In March, 1800, the Queen Charlotte was despatched by the commander-in-chief to reconnoitre the island of Cabrera, about thirty leagues from Leghorn; then in the possession of the French, and which it was his lordship's intention to attack.

On the morning of the 17th the ship was discovered to be on fire, at the distance of three or four leagues from Leghorn.

Every assistance was promptly forwarded from the shore; but a number of boats, it appears, were deterred from approaching the wreck in consequence of the firing of her guns, which were shotted, and which, when heated by the fire, discharged their contents in every direction.

The only consolation that presents itself under the pressure of so calamitous a disaster is, that it was not the effect either of treachery or wilful neglect, as will appear by the following official statement of the carpenter:—

"Mr. John Braid, carpenter of the Queen Charlotte, reports, that at about twenty minutes after six o'clock in the morning, as he was dressing himself, he heard throughout the ship a general cry of 'fire;' on which he immediately ran up the after-ladder to get upon deck, and found

the whole half-deck, the front bulkhead of the admiral's cabin, the main-mast's coat, and the boat's covering on the booms, all in flames; which, from every report and probability, he apprehends was occasioned by some hay which was lying under the half-deck, having been set on fire by a match in a tub, which was usually kept there for signal guns.

"The main-sail at this time was set, and almost entirely caught fire; the people not being able to come to the clue garnets on account of the flames.

[The clue garnets are ropes for hauling up the clues, or lower corners of the main and foresails to their yards.]

"The carpenter immediately went to the forecastle, and found lieutenant Dundas and the boatswain encouraging the people to get water to extinguish the fire. He applied to Mr. Dundas, seeing no other officer in the fore-part of the ship (and being unable to see any one on the quarter-deck, from the flames and smoke between them), to give him assistance to drown the lower-decks, and secure the hatches to prevent the fire falling down.

"Lieutenant Dundas accordingly went down himself, with as many people as he could prevail upon to follow him; and the lower-deck ports were opened, the scuppers

plugged, the main and fore hatches secured, the cocks turned, and water drawn in at the ports, and the pumps kept going by the people who came down, as long as they could stand at them.

"He thinks that by these exertions the lower-deck was kept from fire, and the magazines preserved for a long time free from danger; nor did lieutenant Dundas or he quit this station, but remained there with all the people who could be prevailed upon to stay, till several of the middle-deck guns came through that deck.

"About nine o'clock, lieutenant Dundas finding it impossible to remain any longer below, went out at the foremost lower-deck port, and got upon the forecastle; upon which he apprehends there were then about one hundred and fifty of the people drawing water, and throwing it as far aft as possible upon the fire.

"He continued about an hour on the forecastle; and finding all efforts to extinguish the flames unavailing, he jumped from the jib-boom and swam to an American boat approaching the ship, by which he was picked up and put into a boat then in the charge of lieutenant Stewart, who had come off to the assistance of the ship.

(*Signed*) JOHN BRAID."

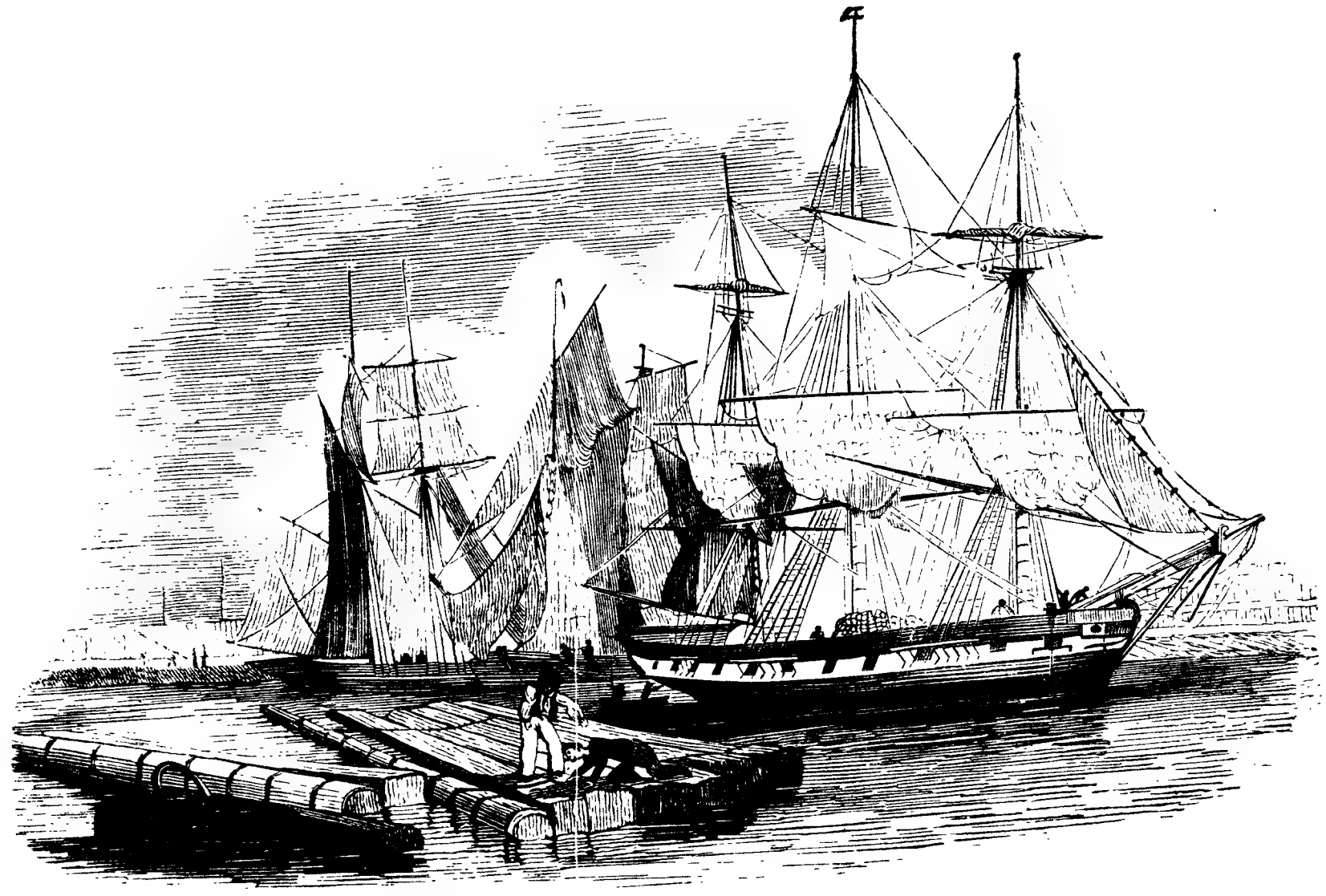
Captain Todd remained upon deck with his first lieutenant to the last moment, giving orders for saving the crew, without thinking of his own safety.

Before he fell a sacrifice to the flames he had time and courage to write down the particulars of this melancholy event, for the information of Lord Keith; of which he gave copies to different sailors, entreating them that whoever should escape might deliver it to the admiral.

Thus fell victims to perhaps too severe a duty, the captain and his first lieutenant, at a time when they still had it in their power to save themselves; but self-preservation is never a matter of consideration in the exalted mind of a British naval officer, when the safety of his crew is at stake.

Lord Keith and some of the officers were providentially on shore at Leghorn, when the dreadful accident occurred. Twenty commissioned and warrant officers, two servants, and one hundred and forty-two seamen, are the whole of the crew that escaped destruction out of nearly nine hundred souls on board; that for nearly four hours exerted every nerve to avoid the dreadful termination which too surely awaited them.

Courage and intrepidity are absolute requisites in the



TIMBER SHIPS IN DOCK.

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person of him who commands a number of men. Perhaps few possessed this quality to a greater extent than that great naval hero, Lord Nelson; who, even in his earliest years, gave proof of that daring spirit and noble soul for which in after life he was so eminently distinguished. The following is an instance:—

Once, after the Christmas holidays, when he and his brother William had set off on their ponies to return to school, they found their journey impracticable, in consequence of a heavy fall of snow. They returned home and informed their father of the circumstance. "If that be the case," said Mr. Nelson, "you certainly shall not go; but make one more attempt, and I will leave it to your honour. If the road is dangerous, you may return; but remember, boys, I leave it to your honour!" William, who did not relish a journey under such circumstances, wished to turn back, but Horatio peremptorily refused. "We must go on, brother; remember," said he, "it was left to our honour!"

CHAPTER XV.

Grandpa returns to the Prince of Wales—The Juno joins the squadron, and is sent to cruise among the West India Islands—Grandpa joins her—A sail upon the weather-bow—Orders to chase—Two other sail discovered with a fleet of merchant ships under convoy—The disappointment—The Juno bears up in chase of the enemy—Breakers a-head, and land upon the lee-bow—Method of heaving the lead—The life-boat.

THERE was not a man on board the store-ship but was glad to meet the squadron again, all hands worked with great alacrity to get the powder up from the magazine, and we all rejoiced when it was delivered to the different ships of the squadron. I also was glad, for I was very desirous of returning to my own ship, the Prince of Wales, where I was gladly received by my kind uncle and my messmates after my escape in the store-ship.

The West India station, however, was getting very dull; nor could we get sight of the enemy we expected to find there. Wherever we touched at, he had been there a fortnight or three weeks before us, and off we went again

in the endeavour to meet with him somewhere. Another large frigate,—the Juno, joined us in the place of the Undaunted, and I was sent on board of her by my uncle's wish; as he said I should gain more knowledge of navigation and the method of managing a ship, by mixing with different captains and officers, than I should obtain whilst remaining only with him—and as the time of his cruise had all but expired on this station, I might in the Juno visit the different places he wished me to see, and return to him when he sailed for the Mediterranean, where he would have to join Lord Hood in about three months time.

I gladly acceded to this arrangement, and soon got all my traps on board the frigate. We left the squadron, and for several days kept cruising about amongst the islands, but without meeting with any prize.

To amuse ourselves we got up a bit of a scheme, that should be for the benefit of one of the mess. It was this; each mid was to put a dollar into a bag, and then name a day on which he thought we should see a sail; but no two persons were to give the same day, and whoever guessed right was to have the bag.

This bag was getting rather heavy at last, for everyone

had lost two or three times, and no one had won. And we were now tired of our situation, and glad the cruise was almost ended; for we found the navigation very dangerous, owing to unaccountable currents, so we shaped our course for Cape Antonio (the western point of the island of Cuba).

The next day the man at the mast-head, at about two o'clock in the afternoon, called out, "A sail upon the weather-bow."

"Ha! ha! Mr. Jonathan," said our first lieutenant, "I think we have you at last. Turn the hands up; make sail! all hands give chace." There was scarcely any occasion for this order, for the sound of a sail being in sight flew like wildfire through the ship, and every sail was set in an instant, almost before the order was given.

Up went a lieutenant to the mast head with a spyglass, and "what is she?" was asked by the skipper (captain).

"A large ship standing athwart right before the wind," answered the lieutenant.

"Port!—keep her away!—set the studding-sails," shouted the captain; fearing that the enemy was too large to cope with, and that he might have to run for it.

Again was called from the mast-head, "Two more sail

on the larboard beam!" and instantly after, "I see a whole fleet of twenty sail coming right before the wind, sir."

We were quite confounded at such luck.

"This is some convoy or other," said the captain; "but we must try and pick some of them out. "Haul down the studding-sails; luff (bring her to the wind); let us see what we can make of them."

About five o'clock we got pretty near; they proved to be twenty-two sail of American merchantmen, under convoy of three line-of-battle ships, one of which chased us; but when she found we were playing with her (for the Juno sailed a great deal faster than our would-be captor), she gave up the chace and joined the convoy; which the men-of-war got as close together as possible, and placed themselves at the outside. But we still kept hovering about them till after dark.

"Oh! for the Prince of Wales and another frigate or two, and we should take the whole fleet and convoy, worth some millions!" said our first lieutenant.

About eight o'clock we perceived three sail at some distance from the fleet; we at once dashed in between them, and gave chace, and were happy to find they steered from the fleet.

About twelve we came up with a large ship of twenty-six guns.

"Every man to his quarters," said the skipper. "Run the guns out, and light the ship up; show this fellow our force, it may prevent his firing into us, and killing a man or two."

No sooner said than done.

"Hoa, the ship ahoy; lower your sails and bring-to instantly, or I'll sink you," shouted the skipper.

"Clatter, clatter, went the blocks, and away flew all their sails in proper confusion.

"What ship is this?"

"The Rosa."

"Whence came you?"

"From Jamaica."

"Where are you bound?"

"To Pensacola" (one of the principal towns in Florida).

"What ship are you?"

"The Juno."

Hurra three times by the whole ship's company, sounded along the deck of our supposed enemy. An old grum fellow of a sailor standing close by me muttered out,

"Oh, confound your three cheers—we took you to be something else."

Upon examination we found it to be as reported, and that they had fallen in with the American fleet that morning, and were chased the whole day; and that nothing saved them but our stepping in between.

The other vessels in company were likewise bound to Florida, at that time in our possession.

Thus was all our expected prize-money gone; for the other ships had got so far off, that it was scarcely possible for us to overtake any of them. But, however, we determined to make the trial, and we were not long in getting every stitch of sail that she could stagger under upon the Juno, and following on in the course of the American convoy. But in this we were disappointed, as you shall hear.

We had not proceeded far, however, being on the starboard tack, when about six bells (three o'clock) in the middle-watch, a man upon the forecastle bawls out, "Breakers a-head, and land upon the lee-bow."

Our first lieutenant looked out, and it was so sure enough. "Ready about—put the helm down—helm a-lee," he at once exclaimed.

"Now, Edward, as you ought to be a bit of a sailor by

this time, can you explain to me the mèaning of these last orders ?"

"Why, yes, grandpa, I think I can," said he.

"By the breakers a-head, and land upon the lee-bow, it would appear that the ship was upon a lee-shore ; and by the order to put the helm down, and ready about, as the ship being on the starboard tack, it became necessary that the sails should be trimmed or set upon the larboard tack : and as you have explained to us about the action of the rudder and tiller, that putting the helm to starboard makes the ship's head turn off (or pay off in the sea phrase) to port ; in this case the order to put the helm down (which was to port) was intended to make the ship's head pay off on the larboard tack, so as to weather, or get to seaward of the breakers."

"Very well defined, my boy; and now I will proceed.

The skipper hearing the lieutenant put the ship about, jumped upon deck, "What's the matter," he exclaimed ; "you are putting the ship about without my orders."

"Sir, 'tis time to go about, the ship is almost ashore ; there's the land."

"Why, so it is ! Will the ship stay ?" (come head to wind).

"Yes, sir, I believe she will, if we do not make any confusion; she's all a-back forward now."

"Well," says the captain, "work the ship; I will not interrupt you."

"The ship stayed very well (that is, she came to the wind); her yards were braced round, and she now bore away on the opposite tack, and left the dangerous vicinity of the land.

But we were not certain of our position. "Heave the lead—see what water we have!"

"Three fathom," called out the man in the chains.

"Keep the ship away, W. N. W.," said the skipper.

"By the mark three," again from the leadsman.

"This won't do," he exclaimed.

"No, sir, we had better haul (steer) more to the northward; we came S. S. E., and had better steer N. N. W."

"Steady, and a quarter three," from the leadsman.

"This may do, and we deepen a little."

"Four fathom, sir."

"Very well, my lad; heave quick."

"By the mark five."

"That's a fine fellow! another cast nimbly."

Quarter less eight" ($7\frac{3}{4}$ fathoms).

"That will do; come, we shall get clear by and by."

"Mark under water five."

"What's that?" I exclaimed in astonishment.

"Only five fathom, sir."

"Turn all hands up; bring the ship to an anchor."

"All hands bring the ship to an anchor, hoy," rang through the decks.

"Are the anchors clear?" asked the officer.

"In a moment, sir—all clear! What water have you in the chains now?" to the man heaving the lead.

"Eight half nine, sir," was the answer.

"Keep all fast with the anchors till I call you."

"Ay, ay, sir, all fast."

"I have no ground with this line, sir."

"How many fathom have you out? Pass along the deep sea-line."

"Ay, ay, sir."

"Come, are you ready?"

"All ready, sir."

"Heave away, watch! water (to pour on the line, as it was running out with such velocity as to be almost on fire)—bear away,—veer away. No ground, sir, within a hundred fathoms."

"That's clever; come, it is all right yet. All down but the watch;—secure the anchors again;—heave the maintopsail to the mast;—and bring her to the wind (that is, hove-to).

All but the watch now retired to rest; and as the danger was past (at least, we thought so, but in which we were mistaken, as will hereafter appear), we soon got all to rights again.

I think it necessary, my young readers, for you to understand the difficult position in which we were placed, and the various orders and answers given above, that I should here explain the method of heaving the lead, and how the depth of water is ascertained

The method of heaving the lead is as follows:—

A good seaman is sent into the main-channels, or chains, as they are called by seamen, where he is secured from falling overboard by a rope passed round his waist, and fastened to the lanyard of the shroud. The lead-line, as its name implies, is a long small rope, to which a weight of lead is attached to sink it.

The lead-line is marked into lengths of six feet, called fathoms, by knots or pieces of leather or bunting; where the latter is fixed, whether it be white or red, it is a mark,

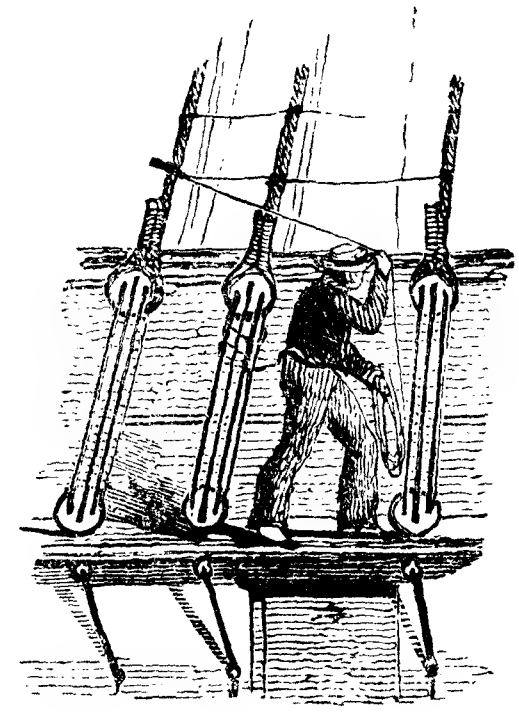
and the leadsman would call it thus, "by the mark five," or "by the mark seven," as the case may be. At ten fathoms a knot is tied; at fifteen, a mark; at twenty, two knots; at thirty, three knots; and so on. The leadsman accompanies his actions, and delivers the number of fathoms with a song to the pilot when such is on board, or else to the officer of the watch.

In narrow and intricate channels, it is sometimes necessary to place a man in the chains on each side of the ship, as the depth will vary a fathom or more even in the breadth of the vessel; and it is of great importance that these men give the soundings (depths) correctly, particularly in stormy or unfavourable weather: as a wrong depth being given might cause the ship to be run aground, and the consequences would be fatal to her, and perhaps to all hands.

Ships have been wrecked in this manner, and many lives lost; as the weather and the state of the sea would not permit their escape in the ship's boats, and the accident might occur at a place where no life-boat was at hand to rescue them.

The man throwing the lead holds the line in his hand a short distance above the weight, and swinging it over

his head, a few times, to give it impetus, he flings it off from him as far as he can, in the direction of the ship's course, allowing the line to run out freely (as shown in the annexed sketch). As soon as the weight has touched the bottom (or plumbed), and the line is perpendicular under him, he clutches fast and draws it in, calling out the depth—"By the mark seven," or—"By the deep nine," according to circumstances. At the bottom of the weight is attached a hollow tube, into which grease is pressed; when the weight reaches the bottom some portion will adhere to the grease; it may thus be ascertained whether the ground consists of sand, gravel, or mud. If rocks, the grease will be indented, but nothing brought up with it.



I remember some few years since, on the North coast of Devon, seeing a schooner that had grounded upon a shoal or sandbank, at a time when a heavy gale was blowing, and the waves were running mountains high.

She was about a mile from the shore. The sea was

breaking entirely over her, so that at times nothing but her sails and upper rigging were visible. The situation of the poor mariners was truly pitiable, the boats belonging to the schooner were so small, that no attempt could be made to leave the ship in them, for they could not have floated two minutes in such a tempestuous sea; and from the violence with which the waves broke over the ship, it was certain she would soon go to pieces.

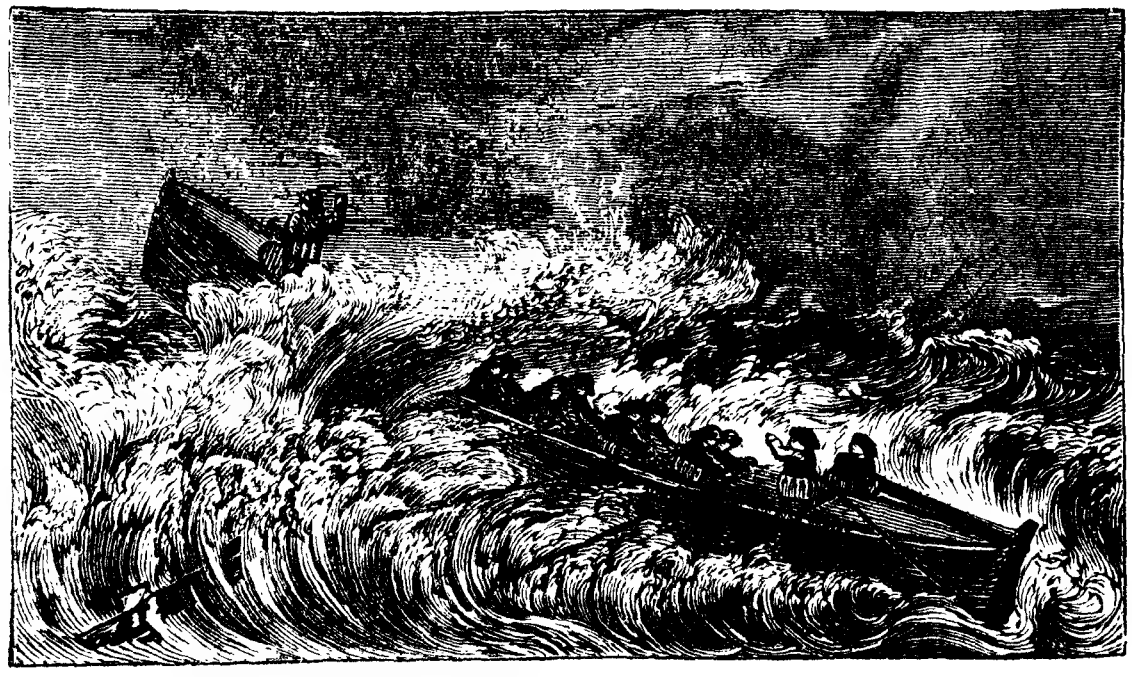
The life-boat was quickly launched, and manned by some of those brave sons of Britain, who in any danger will endeavour to render help to the distressed.

For a time, whilst under the lee of the land, the boat and its gallant crew made rapid progress towards the ill-fated schooner; but soon she got farther out, and then made but little way. Sometimes she was visible on the top of a huge wave; and at others entirely lost to sight from the shore, in the hollow trough of the sea. Still the undaunted crew persevered in their perilous undertaking, and though the sea washed over them continually, every man plied his oar with unabated ardour. (The men, I should tell you, to prevent being washed out of the life-boat, lash themselves firmly to their seats.)

After extreme toil, they reached the schooner. A rope

LAUNCHING THE LIFE-BOAT.

was thrown from the vessel and secured in the boat, which remained at a short distance off, to prevent being washed into or crushed against the sides of the vessel. Another rope was now thrown to the boat, and a man in the

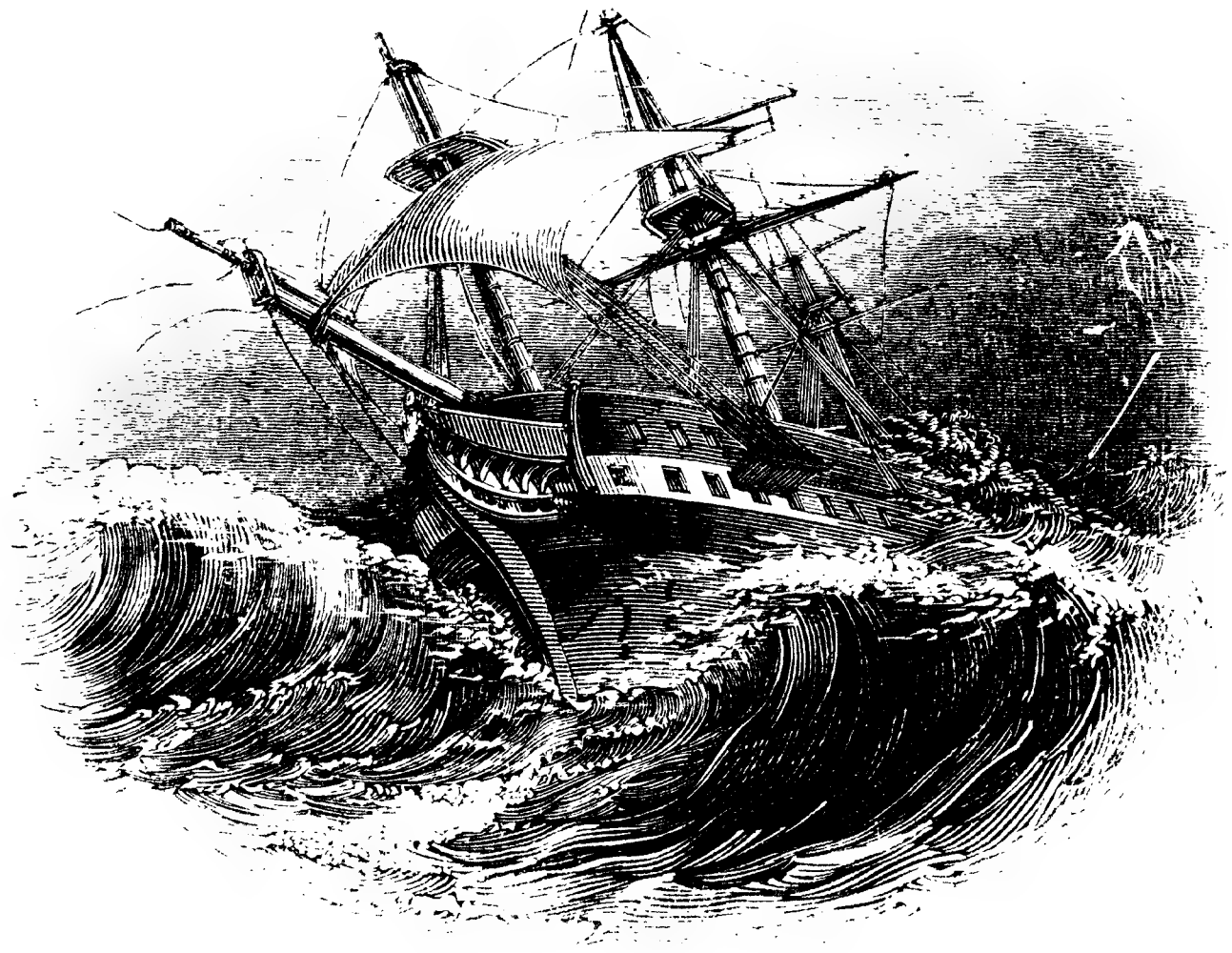


schooner fixed the end of it firmly round his body, and, watching his opportunity, jumped into the sea; he was instantly drawn to, and taken into the life-boat. The rope was quickly passed to the vessel, and another man securing it round him, plunged into the boiling waters, and he is safe in the boat. All at length left the schooner, and the life-boat now turned to the shore, having

accomplished its beneficent purpose. The men plied their stout oars with renewed vigour, soon reached the shore, and received the congratulations and praises of those who had witnessed their daring efforts in the cause of humanity.

The schooner soon afterwards went to pieces, and portions of the wreck were cast ashore.

Life-boats were invented by Mr. Lutlin, and a patent granted to him in 1785; but one built by Mr. Greathead in 1789 superseded Mr. Lutlin's. It was floated in 1790, and in 1791 it saved the crews of the Parthenius and the Peggy, and Parliament voted him a reward of £1200. Since then many improvements have been made, and in 1824 the National Life-Boat Society was founded, principally through the exertions of Sir William Hilary. Under their auspices several other improvements have been made, and in 1872 they contributed to the saving of 729 lives and 25 vessels. This valuable institution possesses 233 life-boat stations.



THE JUNO SCUDDING BEFORE THE GALE.

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CHAPTER XVI.

The Juno overtaken by a squall—The mainmast sprung half-way through—Fishing the mainmast—Increase of the gale—Double-breeching the guns—Battening down the hatchways—Water in the hold—The pumps manned—Dangerous situation of the ship—The Juno scudding—Gale suddenly abates—Safe arrival at Port Royal.

SAILORS are strange beings, and the natures of those comprising our crew could be easily distinguished by their behaviour after our narrow escape. Some few seemed heartily thankful: with others, and by far the greater number, it seemed as if all thoughts of the danger they had just passed through vanished from their minds as soon as it was over; but it appeared that we had no sooner escaped one peril than another threatened us.

The next night we were overtaken by a squall, like a hurricane while it lasted; for, though our lieutenant saw it coming, and was prepared for it, yet, when it took the ship, it roared and so laid her down, that I thought she would never get up again. However, by keeping her

away (before the wind), and clueing up everything (reducing the sails) she righted. The remainder of the night we had very heavy squalls, and in the morning found the mainmast sprung half-way through (split, and likely to break off). The hurricane months coming on, the land very distant, and the head of the mainmast almost off, was a very bad prospect for us; "but, however, we must make the best of it," was the gallant speech of our brave captain.

As soon as possible the mainmast was well fished (lashed round with strong ropes); but we were obliged to be very tender of carrying sail.

The next night it began to snuffle, and a monstrous heavy appearance rose up from the eastward. This induced us to close-reef the top-sails.

"What sort of weather have we?" asked the captain, as he issued from his cabin.

"It blows a little, sir, and has a very ugly look," said the first lieutenant. "I should be almost inclined to say we were going to have a heavy gale of wind."

"Aye, it looks so very often here when there is no wind at all; however, don't hoist the top-sails till it clears a little; there is no trusting any country."

That night, and all the next day, the gale kept increasing. Towards the afternoon it became necessary to make every preparation for the worst. We, therefore, reefed the courses (the main-sail and fore-sail);—brought-to under a storm mizen stay-sail;—saw the boats all made fast;—new lashed the guns;—double-breeched (double-lashed) the lower-deckers;—saw that the carpenters had the tarpaulins and battens all ready for the hatchways (to be put on in case a heavy sea should break over us, to prevent the water rushing down between the decks);—got the top-gallant-masts down upon deck; in fact, did everything we could think of to make a snug ship.

Towards evening it blew tremendously, but still steadily to a point (did not veer about, as frequently occurs in heavy gales). However, we got the hatchways all secured, expecting what would be the consequences should the wind shift. The purser was frightened out of his wits; the two marine officers as white as sheets, not understanding the ship's working so much (rolling and straining her timbers); and the noise of the lower-deck guns, which by this time made a pretty screeching: to people not used to it, it seemed as if the whole ship's side was going at every roll. Chisel, our carpenter, was all this time

smoking his pipe and laughing at the doctor. The second lieutenant was upon deck, and the third in his hammock. So you see, my young readers, that the danger did not much alarm the true sailors.

About midnight we found there was some water between decks, but nothing to be alarmed at. Scuttled the deck (bored holes in it), and let the water run into the well. Found she made a good deal of water through the sides and decks. Turned the watch below to the pumps, though only two feet (depth) of water in the well; but expected to be constantly at work now, as the ship laboured much. with scarcely a part of her above water but the quarter-deck, and that but seldom.

"Come, pump away, boys. Carpenters, get the weather chain-pump rigged" (fitted for working.)

"All ready, sir."

"Then man it, and keep both pumps going."

Word was sent from below that the ship still gained on them (the water in the well was increasing), as the men could not stand to the pumps, the ship lay so much along (on her side).

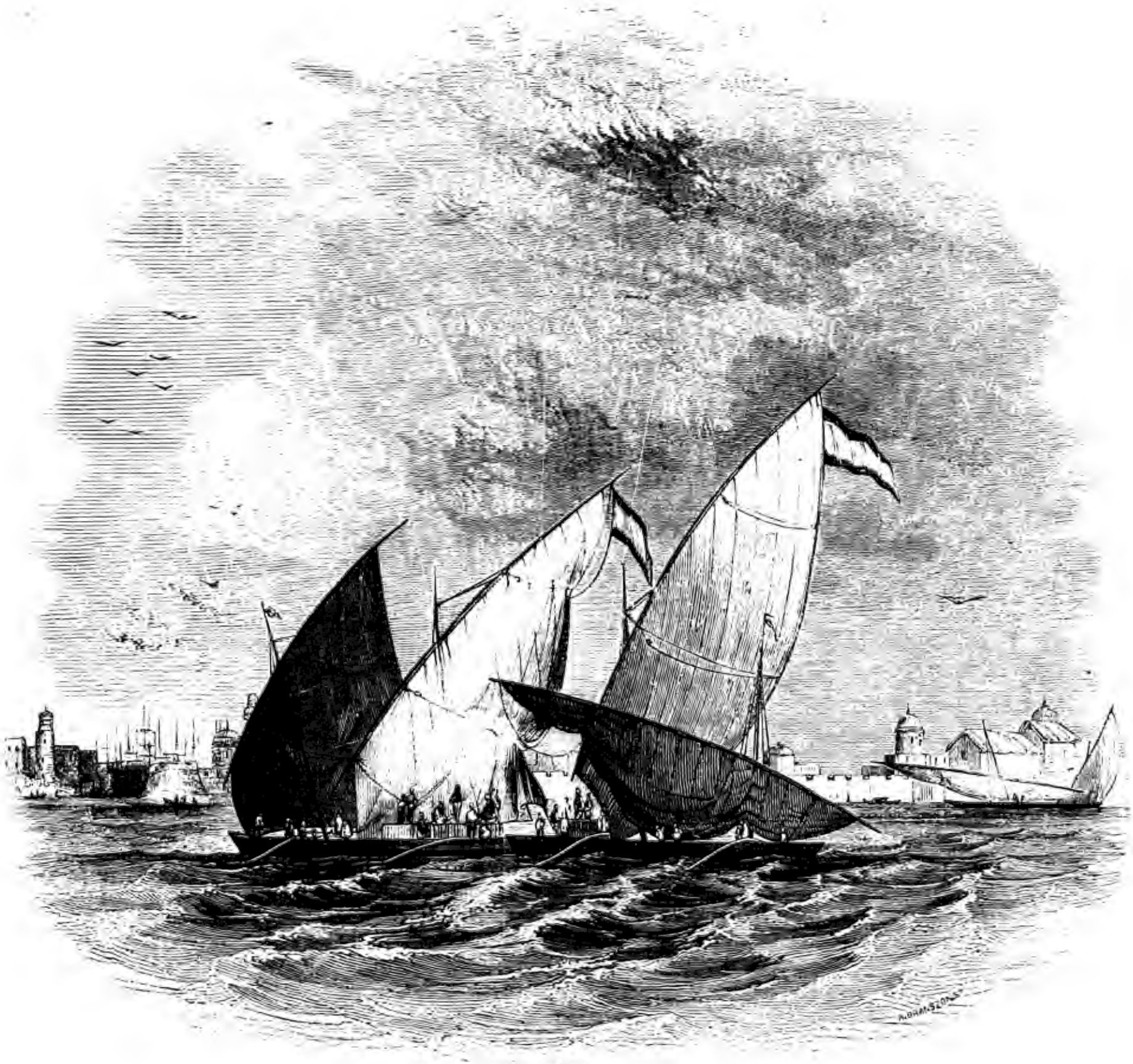
We were tearing through the water, notwithstanding, at a most furious rate, with a close-reefed foresail; and,

though scudding in these latitudes, where islands and rocks are so numerous, was rather hazardous work, we depended a little upon the fury of the gale wearing itself out before morning; and that, even if we should run ashore, some portion of the crew might reach the land in safety; whereas, if we brought-to, the water was gaining so fast upon us, that the ship must eventually founder, and all hands perish.

Fortunately, just at this time the gale suddenly abated, and the huge waves, that had been pouring over us, and clearing the decks of everything moveable, gradually reduced their fury. The men were able to stand to the pumps, and, in a little more than an hour, we had the pleasing intelligence that the water was decreasing in the hold.

This, from the dangerous situation we were in only one hour before, when, if the gale had continued, every soul on board must have perished, now made all hands almost mad with joy. As daylight broke soon after, and the sea gradually lessened, we were enabled to put the ship a little to rights. However, to continue the cruise in our present leaky and disabled state, would have been madness; we, therefore, as soon as possible, got the ship un-

der as much sail as she would carry; and, with several hands at the pumps;—the carpenter and his mates busy at work stopping leaks;—the caulker the same;—and all hands beside, doing what they could, we made sail for the nearest port, where we could get a refit. The next day, towards evening, we got into Port Royal, in Jamaica. Here we found the Prince of Wales, and the rest of the squadron, which had put in the previous day, having also encountered very severe weather. I soon got amongst my old messmates, who congratulated me on my escape. Fortunate, indeed, we were; for many ill-fated ships, with all their crews, were lost during this tempestuous weather.



PIRATES.

CHAPTER XVII.

Informed of pirates being in the neighbourhood—A man-of-war schooner sent to search for and destroy them — Virginia pilot-boat — Curious phenomena — The flying-fish and the dolphin—The alarm given by grandpa's dog—Attack of the pirates—Their capture and fate—Wreck discovered on a reef near Cuba—Boat sent to board her—Horrors of shipwreck—Only two passengers saved.

NOT the least among the dangers of the mariner's life in the merchant service are those inflicted by pirates; they are reckless of human life, and although not so numerous now as formerly, the history of the cruel deeds of these wretches is heart-rending.

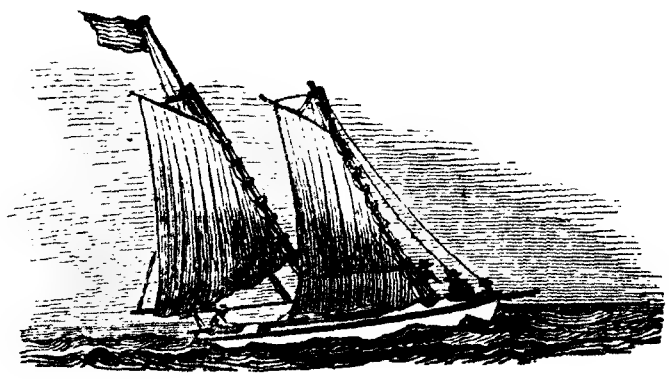
Information having been received at head-quarters that some pirates were committing great ravages amongst the shipping of the Bahama Islands, a fast-sailing schooner was ordered to be got ready, to go in search of, and capture or destroy them.

I immediately solicited my uncle to allow me to join the schooner, which he was pleased to accede to, and three days after, we set sail upon our dangerous expedition.

We reached Long Island in due course, and had seen and spoken with many vessels on our passage, but no appearance of the pirates.

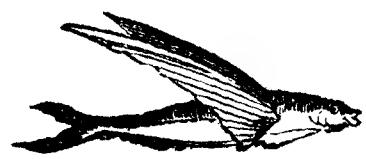
For several days we kept cruising about among the islands; still no suspicious-looking craft had been fallen in with, and we were beginning to think the information we had received was false, and that there were no pirates in the neighbourhood.

We fell in with two or three Virginian pilot-boats, on the look-out for vessels bound to the Florida shores. These boats are rather remarkable in their appearance, as they are painted entirely white, and generally manned by blacks, who manage them exceedingly well. Their little vessels are fast sailers, and good sea-boats also. The annexed drawing is a representation of one of them.



One night, on our way to St. Salvador, we were steering our course between the islands, with the wind from the westward, when, towards morning, it fell calm. We knew we were not more than two miles from the shore; but

the night was the darkest I had ever been out in. In the early part of the night there had been some heavy showers, and we had seen some faint flashes of lightning, and heard the hoarse rolling of heavy peals of thunder, as they reverberated among the distant hills. At this time we had neither rain nor wind; in fact all nature seemed hushed in repose, and not a ripple or swell appeared on the glass-like sea; and the sound of footsteps on the deck of the little vessel, as the men ran to haul on a rope, and the creaking of the rudder, sounded loud and distinct, in the midst of this universal silence. The sea, as frequently occurs in tropical climates, had become strongly phosphorescent; so that any substance, even a small chip, being thrown overboard, struck fire from the water as bright nearly as the sparks from a flint and steel. And when the dolphin (a fish well-known in these latitudes) leaped into the air (which they often do to the distance of several yards, when in play, or in pursuit of the flying fish), he seemed to rise in a blaze of fire-works; and when he fell into the still bosom of the "deep dark sea," he appeared to vanish in a flood of fire. As I have spoken of the dolphin and flying-fish, you may, perhaps, like to hear something more about them.



The flying-fish is about eight or ten inches long; and its wings, when extended, reach nearly two feet. They are a favourite prey of the dolphin, who will chace them for a considerable distance, and generally capture the poor little fish, notwithstanding all his efforts to escape. When pursued by this monstrous foe of their race, the flying fish takes long flights through the air, several hundred yards at a time, dipping into the water only for an instant, as if to wet his wings, and again skimming through the air. Now changing his course to one side, to elude his pursuer, then flying off in the opposite direction, but all in vain; as the rapid progress of the dolphin perceptibly decreases the distance between them, and the least deviation in the course of the winged tenant of the deep, is soon discovered by its inveterate pursuer, when he takes his leap into the air, as if to ascertain the fact. At length the strength of the flying fish fails him, and when he dips into the water he does not rise so nimbly from its surface. His every succeeding flight is shorter, and the dolphin is close to his prey. In terror the flying fish again takes wing, but the untired dolphin—who appeared to have calculated the strength of his victim, and

the distance of its last flight, had reached the spot where it terminated; and, instead of dipping into the water, it is received into the open mouth of its relentless foe, who nowise fatigued by his late exertions, stretches out again in pursuit of others of the flight of flying fish. But to return to our subject.

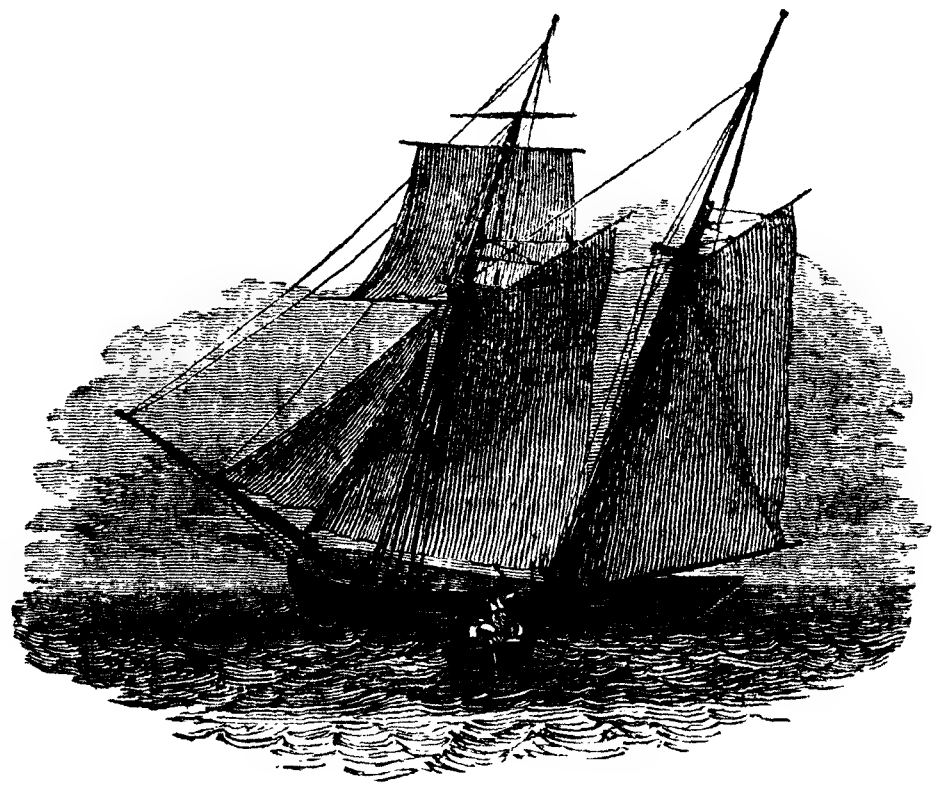
I was pacing the deck, now and then playing with my faithful dog and almost constant companion, Neptune; when he suddenly left me, and running to the side of the vessel, and, resting his forepaws on the bulwark, looking eagerly forward, as if endeavouring to trace out some object amidst the intense darkness of the night, he uttered a short anxious bark.

One of the men advanced to the dog, and, patting him on the head, said, "Eh! Nep, what is it, my dog? speak to them, Nep."

The dog, without changing his attitude, gave a long low growl. Lieutenant Lanyard, who commanded the schooner, at this moment came on deck

We instantly became interested in the motions of the dog, and we knew enough of the dangers of the sea to prevent our neglecting a warning; for it was evident the dog either saw or heard something that was beyond the

reach of our sight and hearing. I now listened attentively, and a sound as of the dip of oars in the water reached my ears, and presently I could distinguish the bright plashing of the water (from the phosphorescent appearance I have spoken of) as the oars dipped into it. A large boat was evidently approaching us. "Look out—hail that boat," said I to the men. It was done, but no answer was returned; again we hailed, and with no better success.



This puzzled us very much; in fact, we did not like the appearance of the matter at all, and thought it but

right to prepare for the worst. "Boatswain's mate," said Lanyard, "pipe all hands—quick, my men; get your cutlasses and arms." It was well we did so, for a large row-boat, or canoe, was now alongside, pulling six oars of a side, and with about twenty-five men in her. The next instant they had hooked on to our quarter, and at least twenty unlooked-for visitors scrambled up the side, and jumped on board. All this was so sudden that but few of the crew were ready to receive them; but these were fortunately the prime men of the ship.

"Surrender, you scoundrels," I shouted; "surrender. You are on board a man-of-war; if you do not drop your arms this instant, you are all dead men." Either not understanding me, or not believing what I said, one of them attacked me with a cutlass.

Lanyard now at the top of his voice called out, "Cut them down, boarders!—down with them; they are pirates! Heave cold shot into their boat alongside!—Boatswain, call all hands."

A desperate struggle ensued; our assailants had no fire arms, but with their long knives and swords, which they used with desperation, several of our men were cruelly wounded. The pirates, for such they were, though they

had found out their mistake, were not yet conquered; and, in the utter darkness, we were almost afraid to strike a blow, lest it should fall on a friend. By this time all our hands were on deck, and some of the pirates had fallen to rise no more. They made a rush to where they had fixed their boat; but their escape was rendered impossible by that method, as the heavy shot thrown into her, had gone crashing through her bottom, and she was swamped. For some time they fought in a body, but at length they separated and were pursued singly to various parts of the ship, but they were not vanquished. I ran to the binnacle, where a blue-light was stowed away, and fired it. By its light we tracked the desperate ruffians. Some were killed, others wounded and taken prisoners; the remainder jumped overboard, with the view of swimming to the shore. In this they were foiled, for the sparkling of the dark water as they passed through it, pointed them out to the marines on board, who with their muskets shot them man after man.

We secured our prisoners, who were all blacks and mulottoes; and the most villanous-looking ruffians that could be seen.

At this time a heavy shower of rain fell, accompanied

by vivid lightning. The effect of the rain was most extraordinary, as the drops fell in quick succession into the water, which became by its phosphoric appearance almost like a sea of fire. A ship lying near us was struck by the electric fluid, and her main-topmast carried away close to the cap. Four of her crew were killed by the shock, and several more were stunned. Our ship happily escaped this misfortune.

Now, my young readers, lest you should feel surprised at the fact I have stated, of the pirates being shot by the marines whilst endeavouring to escape, when they were not in a position to do us any farther injury; a little explanation will be necessary. I should tell you that the life of a pirate is always considered a forfeited one; as they are always men of the worst character, and live only by plundering vessels they fall in with, and can master. They are men stained with the blackest crimes; for, on capturing a vessel, they seldom spare any of the unfortunate crew, murdering them all in cold blood if they have not made any resistance, and in revenge, if otherwise. If the vessel is not considered worth taking to their haunt, they plunder her of everything valuable that they can carry away; and having bound the unfortunate

captain and his crew, to prevent their making any efforts for their escape, they will either set fire to or scuttle the ship, by boring holes through her bottom. This admits the water into her, and she gradually sinks with her helpless freight of human beings, and is no more heard of. Such events as the above in former years were but of too frequent occurrence, and it may well be supposed that many missing ships have perished by these means, and not by the fury of the winds and waves. Many parts of the globe are infested with these ruffians—fiends, I may almost call them, in human form. Among the West India Islands they are frequently met with; also in the East Indies, where the Malays add to the darkness of their countenances, by their still darker and cruel deeds. In the Mediterranean Sea they have been encountered; and on the coast of Algiers (in Africa), many events of such relentless and unparalleled cruelty could be told, that would harrow up the soul, and almost chill the blood of the hearer. I regret to state—to their utter disgrace be it spoken—that Englishmen have been found vicious enough to join these lawless bands.

Is it, then, my young readers, a matter of wonder that these wretches, who possess no sentiment of awe of the

great Being who created them, and no feeling of regard for their fellow-man—is it surprising that, the arm of the pirate being against every man, every man's arm should be against him? As I have stated, their lives are always forfeited. If taken prisoners, they have a trial, like any other felon; but if attempting an escape, and no other means of recapturing them is feasible, they are subject to be shot; and awful is their fate when summoned to stand before His dread tribunal, before whom the best must tremble.

After this circumstance, some weeks passed away, during which we were constantly cruising about, and no incident worth relating occurred. One fine morning, when standing in towards the land, not far distant from Cuba, the look-out man at the mast-head hailed, "A wreck lying upon the weathermost point of the long reef." (The weather-most point is the one farthest out at sea, and most exposed to the weather.)

It had been blowing very hard, and there was a good deal of motion in the water; but Lieutenant Lanyard considered that a boat could live (float in safety) in it. He therefore determined to heave-to, and endeavour to send her assistance.

Our lee quarter-boat was lowered, and, accompanied by

several sturdy hands, I pulled towards the wreck. As we neared her, we discovered that she was a large brig, but had lost both her masts just above the deck. As we approached, we passed the floating carcasses of several bullocks and various portions of the wreck.

When we got under the lee of the reef, we were in comparatively smooth water, and were enabled to examine a little into the appearance of the wreck. We discovered that all her boats were gone; which, as we did not see any of the crew on board, induced us to believe she was forsaken, and that they had escaped to the shore in them, or otherwise they must all have been carried away by the sea. It appeared the vessel must have unconsciously run upon the reef during the darkness of night; as her masts, which were broken off, were hanging over the side, and still held by the standing rigging (shrouds and stays), which had not been cut away—had all her sails attached, and were floating about beside her.

The brig lay on her beam-ends; and over the fore part of the vessel the sea was making a clear breach, and washing about the carcasses of several other dead bullocks, which were much decomposed; and it thus became evident that the wreck had been some time in her present situa-

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tion. On getting on board, a piteous scene presented itself. Sheltered from the sun and the fury of the sea by a piece of canvass, we discovered, lashed to the ring-bolts in the stern, the lifeless forms of several females—some of them with infants firmly clasped in their embrace, but also dead. In the round-house at the stern, were two other females, who were alive, but reduced to perfect skeletons. We were fortunate enough to get them on board our own ship; and, under the care of the surgeon, they recovered.

From them we learnt the reason we had seen none of the crew, nor any male person on board the ill-fated ship. It appeared she was an emigrant-ship, and, as we supposed, had struck on the reef during the night.

The account detailed to us of the sufferings of the unfortunate women, when deserted and left to perish, as they thought they were, by their husbands and friends, was truly heart-rending—when day by day passed away, and no boat returned to them; when the calls of hunger became intense, and there was nothing to relieve them. Twelve days had thus passed, and, one after another, their companions had perished before their eyes; and such, in a short time, would have been their fate, had we not discovered the wreck as we did.

But I will not dwell longer on this melancholy tale. The two survivors procured friends at Cuba, who assisted them to return to the country they had left; where they had relatives, and where they would, doubtless, long retain the memory of this their first unhappy voyage, and of the perils and dangers incident to those traversing the mighty deep.

"The queenly ship!—brave hearts have striven,
And true ones died with her!
We saw her mighty cable riven,
Like floating gossamer!
We saw her proud flag struck that morn,
A star once o'er the seas,
Her helm beat down, her decks uptorn,—
And sadder things than these!

"We saw the strong man, still and low,
A crushed reed thrown aside!
Yet by that rigid lip and brow,
Not without strife he died!
And near him, on the sea-weed lay—
Till then we had not wept;
But well our gushing hearts might say,
That there *a mother* slept."

MRS. HEMANS.

CHAPTER XVIII.

Grandpa returns to Port Royal—Rejoins the Prince of Wales, which is ordered to join Lord Hood's squadron in the Mediterranean Sea—Fore-reaching—To heave-to—Weather and lee—Sailing close to the wind—Lee-way—The starboard tack, and the larboard tack—The compass, latitude and longitude, and their uses—The log—A knot—A side wind, and difficulty of steering—Relieving tackles to the tiller.

A WRECK is one of the saddest sights that sailors see, when on long voyages far from any human aid but that of their own stout hearts and strong arms; but these, with a tight ship and a good look-out enable them to weather many dangers that would appal a landsman; but a sailor's life is one of constant activity, and as the time for the Prince of Wales to remain on the West India station had now expired, we bore up for Kingston.

Orders had been received for the ship to join the squadron in the Mediterranean, who were watching the motions of the French fleet. This was joyful intelligence; and we began to think that we should at last get a little prize-money to take to England with us.

As nothing particular happened during the voyage to the Straits of Gibraltar, I have nothing to relate to my readers about it. I will, therefore, take this opportunity of mentioning something about the log and the compass, and the method of ascertaining the position of a ship at sea, by means of the quadrant; and what is called dead reckoning; which, as Jonathan would say, "I reckon" will be more useful to most young people, and make them better acquainted with the subject of this work, than a relation of the events on board a ship during a dull voyage.

I will commence by telling you the meaning of the term fore-reaching.

When two vessels are sailing in the same course or direction, and the sternmost ship passes or goes ahead of the other, she is said to fore-reach upon her.

When a vessel is sailing under her topsails, &c., and is required to be hove-to, to allow a boat to come alongside, or any other cause; the operation is performed by slacking the lee, and hauling in the weather main-braces, so as to throw the main-yard a-back, and lay the main-topsail to the mast; in which position, as will be seen by the drawing of the slaver brig, the wind is acting upon the main-topsail in a contrary direction to the other sails, thereby

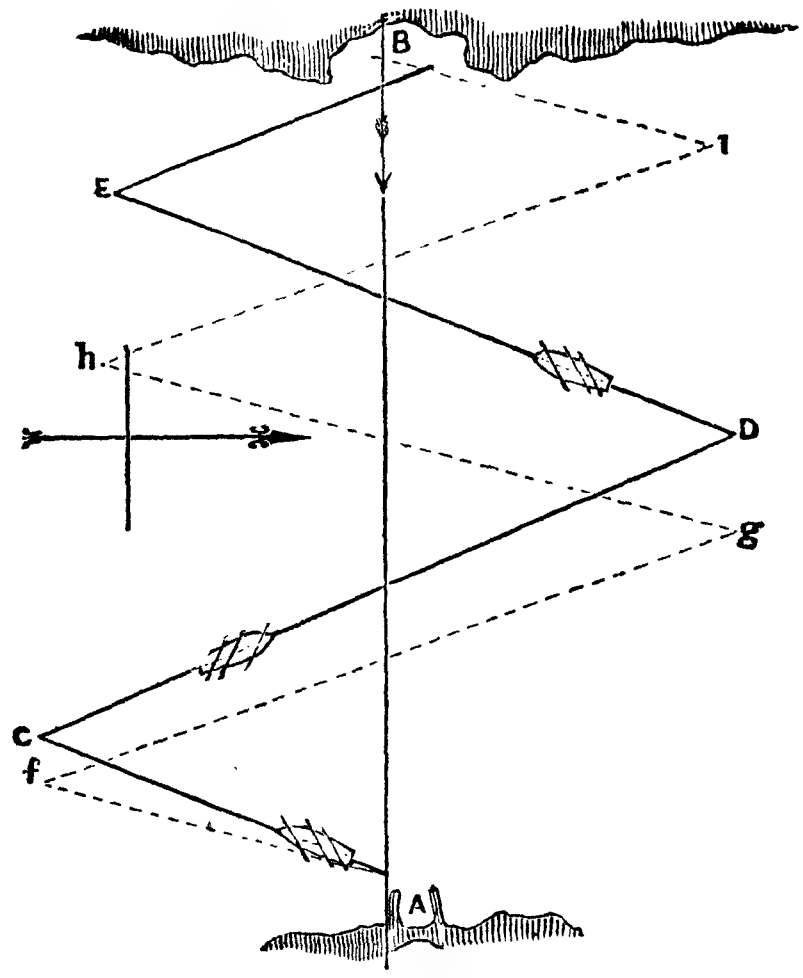
stopping the ship's way (progress through the water), and rendering her stationary.

When a ship is sailing, the side upon which the wind blows is called the weather side, and the opposite one, the lee; and the rigging, &c., is designated by the terms, weather and lee; such as the weather-braces, lee-braces, weather-yard-arm, and lee-yard-arm, &c. Sometimes to the helmsman the order would be, "Put the helm a-lee," or "a-weather," instead of "port" or "starboard."

A square-rigged vessel — such as a brig or three-masted ship—cannot sail closer to the wind than six points. Suppose a ship's course to be due west to reach her port of destination, and the wind is blowing due west, she will then have what is termed a head wind; and to make her voyage, will be obliged to resort to the operation of beating or tacking to windward, by first sailing or making a long reach on the larboard tack, and then making a reach on the starboard tack.

If a vessel does not possess good sailing qualities, she will make considerable lee-way in such a case; whereas a good sailing ship, in two tacks of 100 miles each, may have advanced twenty miles on her voyage in the space of forty-eight hours.

The lee-way is a bodily sideway motion, and is better explained by the diagram, wherein the point, A, is the starting point of the ship, and B, her destination. The line with the arrow on it points the direction of the wind,



and the straight course of the vessel; but, as she cannot sail closer than six points to the wind, her course would first lie along the line A c: this is called the starboard tack. Arriving at the point, c, she would "go about" (turn) on

EVENING AT SEA.

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the line, C D, which is the larboard tack. From D, she would again go about, on the starboard tack, along the line, D E; and, from E, she would have another short reach to make, on the larboard tack, which would bring her to her destination, B.

The dotted lines, terminating in the points, f, g, h, i, show the course a vessel would take, if she could not sail so close as six points to the wind.

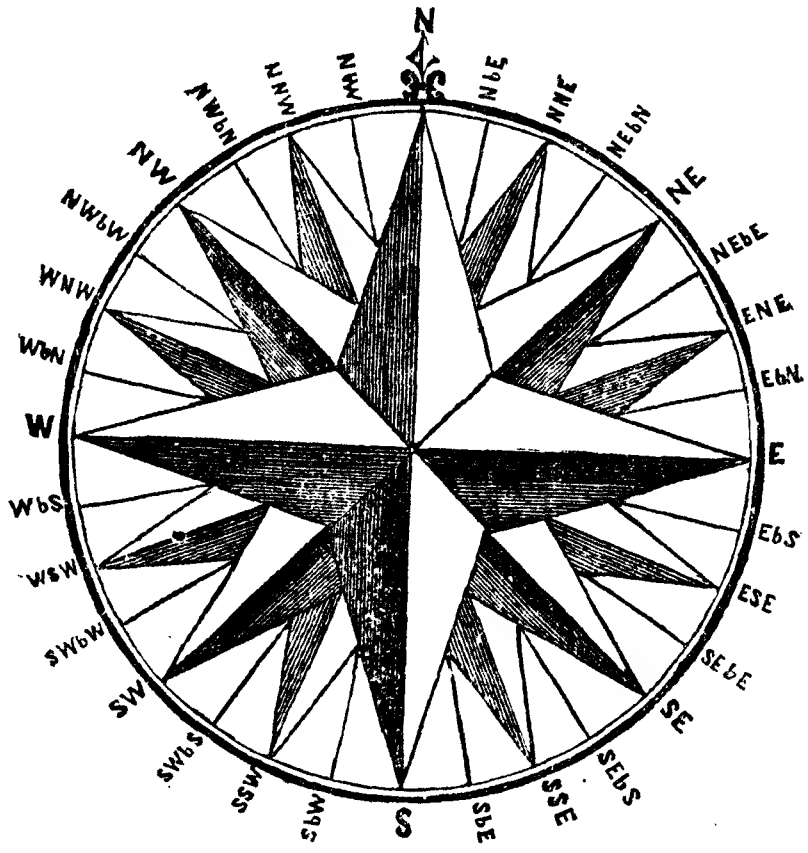
Ships that make lee-way, are those which, after making several reaches on each tack, are but little advanced on their voyage—if not, as it sometimes happens, really farther off.

Now, my young readers, for you to understand the meaning of the term, "sailing six points from the wind," you should examine the card on the compass, wherein the points and their different names are shown. In a compass, the needle is fixed under the card, and, as every body knows, always points to the north.

The names of the different points, commencing with North, and going round the circle on the right hand, are as follows:—N, North; N b E, North and by East; N N E, North North-East; N E b N, North-East and by North; N E, North-East; N E b E, North-East and by

East; E, East. The other points are designated in a similar way, only substituting the words South, East, and West, for S, E, W, as they occur.

The points of the compass are thirty-two in number. I



will now tell you how much a point is, and what connexion it has with the course a ship is sailing. To do this, I must refer my young readers to their geography book, wherein they will find, that the circumference of the earth is divided into 360 parts, called degrees, each degree being equal to about 69½ miles.

You will also see, by looking at a globe, or map of the world, that a series of imaginary lines, or circles, are drawn round it, in an east and west direction, commencing from the poles, and increasing gradually in diameter, until they reach the broadest part of the earth; which line is called the equator. These lines are called the parallels of latitude. Other lines are drawn in a north and south direction, dividing the equator into 360 parts, or degrees, but meeting in a point at the North and South Poles; these are called the lines of longitude. By these lines, the latitude and longitude of any place being given, it is readily found out on a globe or map. The mariner having ascertained this, the direction in which he must sail is denoted by the compass.

Now, to apply the use of the compass to the above; we will suppose a ship to be at the Cape of Good Hope, and her destination to be Ceylon, a large island in the Indian Ocean. If we divide the circumference of the globe, in a north and south direction, into thirty-two parts, to represent the thirty-two points of the compass, we shall find, that a line drawn from the centre point in the N.E. quarter to the centre, would be in the same direction, or nearly parallel to a line drawn from the Cape of Good Hope to the

island of Ceylon; therefore, in sailing thither, the ship's head must always point north-east, to reach it. Or, if the wind is not fair for her to sail in the true direction, she must resort to the method, before described, of beating to windward.

The progress a ship has made on her voyage is discovered in two ways; either by observation of the sun with the quadrant—by which means her latitude and longitude may be discovered, or calculated by what is called dead reckoning, with the log.

The log is a triangular piece of board, fastened to the end of a line called the log-line, upon which, at equal distances, are a number of knots. It is thrown from the stern of the vessel, and remains vertical and stationary in the water; at which instant, the order is given to a man with a sand-glass in his hand, to "Turn." The log-line is then allowed to run out freely, until all the sand has run through the glass, when the man who holds it calls out "Stop." The line is now drawn in, and the number of knots run out are counted off; and the rate of sailing is thus found to be eight, nine, or ten knots per hour, as the case may be. A knot signifies a mile.

This operation is continued at stated periods, or when

any particular alteration in the force of the wind is discoverable. The rate the ship sails at any particular time is noted down, and the distance traversed each day registered. By this means, her progress or position can be ascertained at any time.

When a ship is sailing with a side wind, and it blows hard, she is laid so much down on her side as to render the steering very difficult, as the ship will have a constant tendency to come to the wind ; in which case, from all her sails being suddenly taken a-back, there is a possibility of her being driven down stern foremost—and if on a lee shore, she is certain to be wrecked. To prevent such an occurrence, extra power is required in the steering department, and four men are placed at the wheel, and perhaps eight or ten more at the relieving-tackles in the gun-room. Relieving-tackles are ropes fixed to the tiller, and held on by men, to take a portion of the strain off the tiller-ropes, when a ship is in a heavy sea, and the waves strike the rudder with such force, as to threaten to carry it away altogether. In fact, this sometimes happens, and is attended with considerable danger to the ship.

CHAPTER XIX.

Pilots—Frigate in distress—Signal for a pilot—Pilots going off—Perilous situation—Reaching the frigate—Manner of getting pilot on board—Fire-ships—A man overboard—The life-buoy—Death on board—A funeral at sea—Lines on the occasion—Sea-weed banks—Gibraltar—Attempts of the allies to retake the fort.

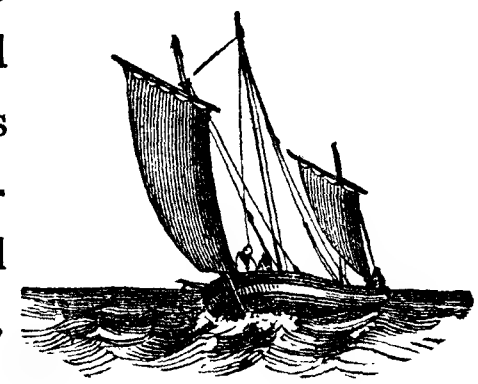
I WISH now to tell you something about pilots. There are now regular pilots attached to every port: these men, from constantly cruising about, become thoroughly acquainted with the intricacies of the navigation, and are therefore able to conduct ships in or out of port with safety. A society for their training was established at Deptford on the river Thames in 1514.

Homeward-bound ships frequently experience much difculty in getting a pilot on board, when most needed, which is the case on making land during a heavy gale.

A pilot's duty is a very dangerous one, and it is necessary they should be both bold and fearless men who undertake it, as they have to go off to ships when the signal is made for them, let the state of the weather be what it may,

although sometimes it is too bad for the most daring to attempt; but this does not often happen. I will tell you a story about a pilot going off to a frigate in distress, during a gale, which will show the difficulties that can be overcome by experience and courage combined.

The boats used by pilots are called luggers. The sketch is a representation of one of them.



They are good sea-boats, and generally sail very fast: their masts are not fixed, so that, when not required, they can be unshipped, and the boat is then propelled by oars.

Pilots, from their occupation, being much at sea, cruising about on the look out for homeward-bound ships, are sometimes called hovellers.

Early one morning, during a tremendous gale, a frigate, bound for Chatham, had advanced up the Channel as far as Dover; when, from the shattered and disabled state of the vessel, her captain deemed it prudent on his part, to make the signal for a pilot, to take her through the Downs, and into the mouth of the river Thames, in safety. The frigate being also in a leaky state, had a signal of distress flying (the Union Jack hoisted upside down).

Notwithstanding the inclemency of the weather, the bold hovellers of Dover were not to be restrained from rendering aid where it was required. It is true, that a royal craft—as a man-of-war is called—did not promise them much reward for the hazard which they ran (their remuneration being generally much greater on board merchant-vessels than in men-of-war); but they knew that a signal of distress would not be flying on board a frigate, unless there was great danger, both to the ship and crew; and there were amongst them young and daring men, who wished to join the "fellowship"—that is, to procure a branch, or license as pilot; and they trusted that their endeavours to save the frigate, would be taken as a strong mark in their favour.

The tide was nearly at its height, as the pilot-boat came bounding out between the pier-heads of Dover, to meet the angry waves that rolled in to oppose her passage. She had good way on her (making rapid progress through the water); but, on opening out to the sea (getting clear of the shelter of the pier-heads), the heavy waves buried her bows under water, and threw whole sheets of spray as high as her mast-heads, right fore-and-aft; but the smart vessel again rose lightly on the billows, throwing her stem

(bow) proudly in the air, as if to shake herself free from all incumbrances, and to prepare for the next attack. The gale, with its mighty breath, swelled her reefed sails almost to bursting; and again she moved forward, whilst her crew crouched snugly down, with halliards and sheets all clear (all ready to let go, if required). Once more rolled in the broken wave, curling over, and roaring loudly as it advanced: the boat again met it, and dashed through the wall of water, but was half swamped (half filled with water), before it had passed astern. The danger was past —the helm checked to starboard, the sheets eased off, and away she flew to succour the distressed frigate; or, in other words, perhaps more intelligible to my readers, she was set to run nearly before the wind.

Hundreds of persons were on the piers, to see the boat make her dangerous passage through them: they watched her with almost breathless silence, whilst the frightful danger was impending. Many a long-drawn sigh of terror passed, as the noble craft was immersed in the foam of the dark waters; but not a word was spoken, till she had got over and passed the whole; and then the loud and continued shout of congratulation and praise burst forth, and mingled with the shrill whistling of the gale.

The captain, and many on board the frigate, had fixed their eager attention on the movements of the hovellers. They could distinctly see the crowds of people upon the pier-heads; and, as the boat came out of the harbour, they became aware that at least the signal for a pilot would be answered. The captain gazed through his glass with the most intense anxiety: he saw the daring efforts and the hard toil of the brave hovellers; he saw the waving of hats and handkerchiefs on the piers, as the boat was making her way rapidly towards him; and, seized with the enthusiasm of the moment, he whirled his hat above his head, exclaiming, "Nobly done! nobly done! hurrah!" The officers and seamen heard the sound, and one loud and hearty cheer rang along the decks—it was the brave answering the brave.

For some distance the pilot-boat kept on towards the ship; she then altered her course towards the Downs, the steersman waving his hat for the frigate to follow.

As they got closer, preparations were made on board the frigate to receive the pilot, as soon as the boat got alongside. A seaman was sent up to the main-yard-arm, and from thence let down the end of a hawser (rope) to touch the surface of the water.

On came the pilot-boat, every man of her crew at his proper duty, and his eyes steadily fixed upon the sails without heeding the frigate. Onward she came, tossing up the bubbling water, and dashing it from her bows, as if in play with the element she braved. The steersman's duty was now one that required great care ; and, as he got closer to the frigate, he turned the boat into the same course she was steering. Now they are alongside ; and a man in the bows has caught the rope suspended from the yard-arm, and secured it round one of the thwarts (seats across the boat). The end of a rope was thrown from the gangway of the frigate to the boat, and secured round the body and under the arms of a sturdy-looking man, who threw off his rough jacket on the occasion. The roll of the sea was watched for ; the boat moved closer to the ship—the rope was hauled taut, and the man jumped from the gunwale (edge) of the boat into the space between. For an instant he was under water, but was quickly raised to the surface, close to the ship's side, where plenty of hands were ready to receive him : he ascended the steps, crossed the gangway—and the pilot was on board.

The boat now returned to the shore, and the frigate

pursued her course, and providentially reached her port in safety.

I will now tell you something more about fire-ships; and after this I must proceed with my own tale.

The fire-ship, which in former days used to be attached to fleets of war, was intended to be run alongside of, and lashed and hooked to, a disabled ship of the line (an enemy) that would not surrender. This cruel and dishonourable method of warfare has of late been abandoned on the open sea, and was used the last time at the burning of the French fleet, at Isle D'aix, in Basque Roads.

The way in which these ships are fitted up, is as follows:—Fore and aft, between and under the decks of a fire-vessel, are laid long tubes of combustibles, which burn and smoke, but will not blow up. In the hold of the vessel are three separate magazines, filled not only with the same kind of combustibles, but also a quantity of buckets, with hooks at their ears and handles, and also filled with this slow, consuming fire.

These buckets are known by the name of *stink-pots*. At the bottom of the magazines are laid a considerable quantity of shells, hand-grenades, and round hollow balls,

filled with a composition which, once ignited, cannot be extinguished until it is burnt out.

When the vessel blows up, which she does ultimately, these balls fall on board the enemy ; and, if he has escaped the fire before, he is pretty sure to take it after the explosion.

At the yard-arms, jib-boom ends, and in other parts of the fire-ship, attached by chains, are grapnels (a species of anchor with several flukes or hooks), which, once hooked, are with difficulty, if ever, extricated, but by cutting the rigging in which they entangle.

When a fire-ship is ordered upon service, the trains are all laid by the gunner ; and, as soon as she is fairly alongside the enemy, and the crew are in their boats, the captain sets fire to the fuse attached to the train, and cut to burn one minute and a half. If he is successful he is promoted ; but if he is taken by the foe, he is hanged at the yard-arm of their ship.

One evening, during our voyage across the Atlantic, a sudden cry resounded through the ship ; it was—" Man overboard ! Man overboard ! "

This created great commotion, and every one was on the

alert, and striving which should be first to render assistance. In an instant one of the quarter-boats was manned, and lowered to the water, and the seamen pulled with desperate energy to the spot where their unfortunate shipmate had fallen.

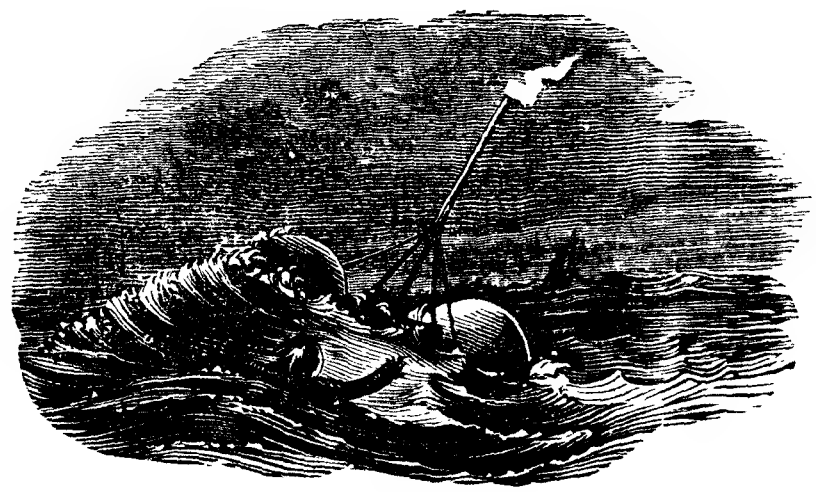
In former years, during a dark night, such an accident occurring, was almost certain death to the ill-fated sailor; for unless he was a good swimmer, and could exert his voice, to let his messmates in the boat know his position, there was but little chance for him. Lately, a machine called a life-buoy, has been invented, and doubtless it has saved the life of many a brave seaman.

The life-buoy is kept suspended over the taffrail. It is an apparatus composed of two thin hollow copper balls, connected by an iron rod, and so poised as to float upright.

On the cross-bar is an upright rod, at the top of which is attached a port-fire, which, in the event of a man falling overboard in the night, is lighted by means of a gun-lock, at the instant it is dropped into the sea, converting it into a floating beacon, to direct both the man overboard to it, and the boat's crew which may be sent to pick him up. This is the more essential, as large ships, having much

head-way, will run a mile before they can be rounded-to (stopped); in which case the man, as I have before stated, would in all probability be lost, but for this clever and humane contrivance. Orders have been issued by Government, for all ships in the navy to be provided with these life-buoys.

In the days I am speaking of, ships were not so provided; but, however, on this occasion, we were fortunate enough to recover the sailor who had thus had such a narrow escape for his life.



THE LIFE-BUOY AT NIGHT

A few days after this occurrence, one of our crew, a quarter-master, died; and, as we were far from land, we were obliged to give him "a sailor's funeral."

It was the first I had witnessed; for, although, during

the time I had belonged to the Prince of Wales, several hands had died, the melancholy events had occurred in ports, where a regular grave could be provided for the deceased.

A funeral at sea is a very affecting scene; and many a sunburnt, hardy and brave man, have I known, who could not restrain the tear of sorrow and sympathy for his departed companion and messmate.

The following lines on the subject will, I think, interest you, and give you an idea of the scene:—

THE FUNERAL AT SEA.

Deep mists hung over the mariner's grave,
When the holy funeral rite was read;
And every breath on the dark blue wave
Seemed hushed, to hallow the friendless dead.

And heavily heaved, on the gloomy sea,
The ship that sheltered that homeless one,
As though his funeral hour should be
When the waves were still, and the winds were gone.

And there he lay, in his coarse, cold shroud—
And strangers were round the coffinless;
Not a kinsman was seen among that crowd—
Not an eye to weep, nor a lip to bless.

No sound from the church's passing bell
Was echoed along the pathless deep,
The hearts that were far away to tell
Where the mariner lies in his lasting sleep.

Not a whisper then lingered upon the air;
O'er his body, one moment, his messmates bent;
But the plunging sound of the dead was there,
And the ocean is now his monument.

But many a sigh, and many a tear,
Shall be breathed, and shed, in the hours to come;
When the widow and fatherless shall hear
How he died, far, far from his happy home.

FINN.

A sailor's funeral is conducted in the following manner:—

As soon as a seaman dies, the surgeon reports it to the officer of the watch; and, at whatever time of the night or day it happens, the captain is immediately made acquainted with it.

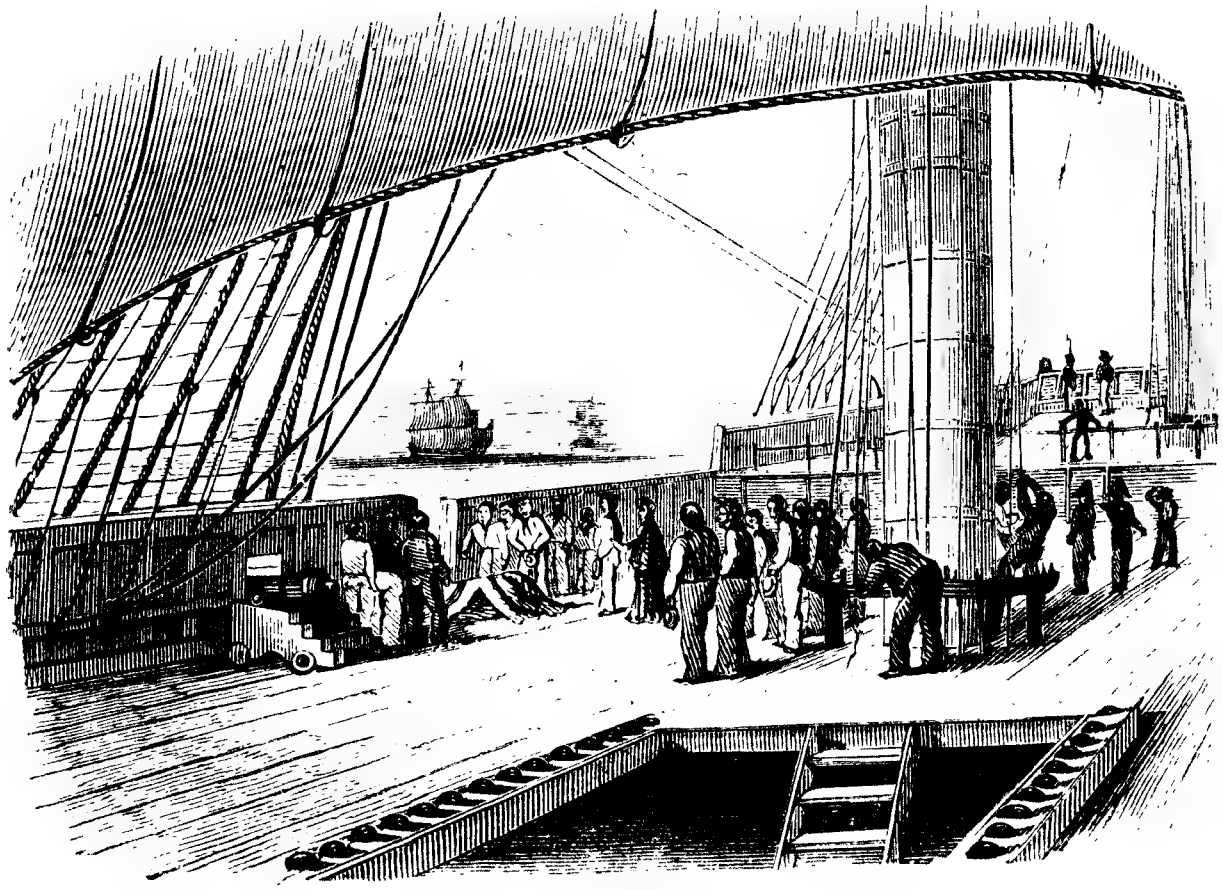
The deceased is prepared by his messmates for his "deep sea grave;" who, with the assistance of the sailmaker, in presence of the master-at-arms, sew him up in his hammock, putting a couple of shot at his feet. The body is then carried aft, and placed upon the after-hatchway,

or on the half-deck, with the Union Jack (flag) thrown over all.

Next day, at about eleven o'clock, the bell is tolled for the funeral; and all who choose to attend, assemble on the gangway and around the mainmast, whilst the fore part of the quarter-deck is occupied by the officers.

While the people are repairing to the quarter-deck, the body is moved by the messmates of the deceased, and placed upon the lee-gangway, where an opening is made large enough to allow the body to pass. (It is still covered with the Union-Jack.) While the messmates arrange themselves around, a rope, which is kept out of sight, is made fast to the grating upon which the body rests.

When all is ready, the chaplain (or, if there is not one on board, the captain or any of the officers may officiate) reads the service for the dead. On coming to the passage, "we therefore commit his body to the deep," &c., one of the sailors disengages the flag, and the others launch the grating overboard; when the body, loaded with the shot at one end, glances off the grating, and plunges at once into the ocean, where it must remain until earth and ocean give up their dead at the dread summons of the Creator. Happy they who at that time have their names written in the book of life.



A FUNERAL AT SEA.

p. 238.

After the funeral the grating is hauled on deck, and all hands return to their duties.

The day after the above occurrence, we met with one of the immense banks of sea-weed, common to the Atlantic within forty degrees of latitude, on either side of the equator, although the currents sometimes drift portions of them upon our coast.

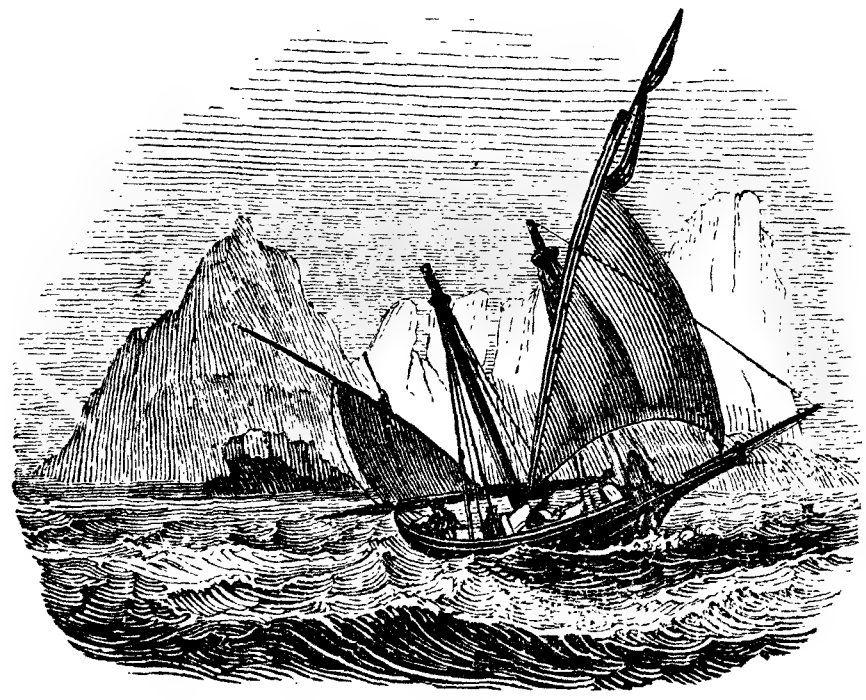
It is remarkable, that, although detached and floating, they seldom move about much, and are generally met with on the passage from the Cape of Good Hope, or from Monte Video, in South America. It was one of these banks, which terrified the crews of the vessels under Columbus, who superstitiously believed that the hinderance was designed by Heaven to stay their adventurous course; and they implored him to return, in consequence, declaring that it was presumptuous impiety to attempt to proceed.

These banks of sea-weed sometimes extend many miles, and ships have been known to be several days getting through them.

A few days after this we reached Gibraltar, of which I must give you some little description.

The town and fortress of Gibraltar stands upon a rock, at the entrance of the Mediterranean Sea. It is the most

southern point of Spain and of Europe, and is divided from the coast of Africa by a narrow channel, called the Straits of Gibraltar.



FELUCCA OFF GIBRALTAR

In 1704, while the Spanish and French nations were struggling for the possession of it, Admiral Rooke, with a small squadron of English ships, arrived in the bay, and, from the weak state of the garrison, succeeded in gaining possession of it, with the loss only of sixty killed and 220 wounded. This circumstance was very much like that of a quarrel between two little dogs, which should have pos-

session of a bone; in the midst of which a big dog comes along, and walks off with it, effectually settling the *bone* of contention.

For many years, several unsuccessful attempts were made by the Spaniards to retake it. The most remarkable was that at the time of the old American war, under the orders of the Duc de Crellon, when it was defended by General Elliott. This siege lasted four years.

The number of rounds of shot fired by the Allies (the French and Spaniards), amounted sometimes to 1000 a day; and the whole number, on both sides, amounted to upwards of 500,000. Amongst other means used to take it, the Allies had ten floating towers, mounting 200 guns; these were so contrived, as to be both ball and bomb-proof. As they annoyed the English exceedingly, recourse was had to heating shot red-hot, which, penetrating the wood, set them on fire, and they were destroyed together with the brave men who served them. From that time to the present, it has remained in the possession of the English.

In summer time, the weather is extremely hot, and cases of plague and yellow fever occur; but, generally speaking, it is very healthy. This rock is, for the most part, inaccessible, and upon it are numbers of monkeys, which afford

amusement to the spectators, by their strange antics. There are also some remarkable caves; but its chief value to England is, that it serves as a key to the Mediterranean in war time, and as a depôt, and harbour for shipping.

The town of Gibraltar is built on the western front of the island, and is very strongly fortified; though its chief protection is derived from the batteries on the neighbouring heights. The houses have flat roofs, and large bow windows; they are generally painted black with a white line to denote each storey or floor. One large street traverses almost the whole town, and is full of shops. The bay is of large extent and is protected from the most dangerous winds.

CHAPTER XX.

Arrival at Malta—Joins Lord Hood's squadron—Falling in with the French fleet—The action—Curious manner of taking a prisoner—Pat Donegan's mistake—Grandpa loses his leg—The cheer—The seventy-four on fire—Blowing-up—Result of the battle—Ordered for England—Description of Malta—Volcanic island—Gun-boats—Siege of Calvi—Inspection—Church service—Arrival at Spithead.

SOME of the crew got an opportunity of stretching their legs at Gibraltar, but the time allowed was very short, and it was with some difficulty all could be collected to go on board, but not before the ship had fired a gun as a signal to recall the boat, for I can assure you that to men cooped up for so long, a run on land is eagerly enjoyed. Our course was up the Mediterranean as far as Malta, where we joined the squadron under Lord Hood, which was on the look-out for the French fleet. This was an anxious time, and almost every man was looking out; some with glasses scanning the whole horizon, others ascending the rigging, and every one anxious to see them first.

We ne'er see our foes but we wish them to stay,
They never see *us* but they wish us away;
If they run, why we follow, and run them ashore,
And if they won't fight us we cannot do more.

HEARTS OF OAK.

The English force amounted to ten sail of the line—viz., our ship, the Prince of Wales; the Royal Sovereign, of 120 guns, on board of which was the commander-in-chief Lord Hood, and the immortal Nelson as her captain. Two ninety-eight gun ships, and six seventy-fours, besides which we had ten frigates ranging from twenty-four to fifty guns, and several corvettes, sloops of war, and gun-boats. After several days cruising, we fell in with the French squadron, which amounted to fourteen sail of the line, with a still larger proportion of frigates, corvettes, &c., than we had.

It was a splendid sight, to witness the different ships tacking and moving about according to the signals made from the mast-heads of the admirals' ships on both sides, as they formed into line of battle.

Our opponents appeared to be rather undecided in their movements; first stretching out in one line and showing a bold front, then forming into double line, and again into

single line; first on one tack and then on the opposite, and so on; until our commanders got impatient, and the men began whispering to one another, "that they shouldn't wonder if the Frenchmen wouldn't try to get away altogether if they could."

The same thoughts appeared to have struck our admiral, for he made the signal for all our ships to form in order of battle, and in a single line to bear down upon the enemy.

The wind at this time was upon our larboard quarter, and the nearest of the enemy's ships were about two miles to windward of us.

Seeing that we were determined to come to an engagement, the French admiral hove-to to watch our manœuvres; and to be in readiness as our ships approached, to give us a broadside in return for the one we intended to "salute him with."

On came our line, and as each ship got within range, a terrific discharge of cannon from both sides burst on the scene, filling the air with dense clouds of smoke, that for a time rendered invisible the position of friend or foe. Presently, however, we discovered the French admiral's ship bearing up with the intention of passing our stern, and raking us.

This would not do at any rate, for in this position a ship suffers more particularly in the loss of her men, than in any other case; and for this reason, that one ship passing the stern of another, and discharging a broadside into her, the shots pour in and sweep through the whole length of the decks, and dreadful is the carnage which ensues.

At the moment we saw the Frenchman approaching us, we were standing full on the larboard tack; we immediately hove about on the starboard tack, and so quickly did our gallant ship answer her helm, and our brave sailors notwithstanding the showers of shot flying about them, were so alert in trimming the sails, that we were enabled to give our opponent the favour he had designed for us; as we crossed his bows and poured a whole broadside right along her decks. After this we again hove-about, and were now on the lee of the enemy, presenting broadside to broadside.

The ships of both fleets had singled out their opponents, and so incessant was the firing, that the wind, which when the action commenced had been a stiff breeze, had now completely lulled, and all the ships appeared becalmed (this is a frequent occurrence in close actions). The air also became so densely filled with smoke, that

every object was invisible a few feet only from us; and the continued roaring of the guns, with the crashing of the timbers in all directions, had rendered every man nearly deaf.

For some time our opponent returned us broadside for broadside, and the destruction of human life in both ships was very great; many poor fellows who had risen in the morning full of vigour and hope, had now fallen to rise no more; and many more had been removed by their comrades to the cockpit to receive the assistance of the surgeons, some with the loss of a leg, some with both gone, others with broken arms, and a variety of other wounds, by which some were so dreadfully mangled and mutilated, that I should but harrow up your feelings to detail them.

The ships had now drifted close together, in fact, their sides touched; and one of the Frenchmen at a gun on the lower deck, was taken prisoner in rather a curious manner. He had two or three times, when the man who was ramming home the charge in the gun, in the port hole of our ships, which was close to him, taken advantage of the opportunity to push forward a boarding pike, and actually pricked the man with it. This repeated annoyance was too much for the feelings of Pat Donegan, an Irishman,

and he at last exclaimed, "Arrah now, my honey, and can't ye be quiet?" Again was the pike protruded; but this time Pat was prepared for him, and, seizing a boat-hook that was near, he suddenly thrust it forward and caught the Frenchman by the collar. So sudden was the movement, that he had actually pulled the fellow out of the port-hole of his own ship, and drawn him partly into ours, before his comrades were aware of the circumstance. It was now too late for them to render any assistance to him, and Pat drew in his prisoner and sat him down on the deck beside him, exclaiming, "There now, Mounseer, you sit still there, and be aisy, or may be I'll have to tache ye the difference atween French and English manners, and that, too, in a way ye won't like overmuch." This circumstance, notwithstanding the deadly strife which was going on, occasioned a perfect burst of laughter from all who witnessed it. Another event in which Pat performed a part, occurred shortly after; it was this—a poor fellow near him had both his legs broken by a splinter, and Pat seeing him lying on deck, went to inquire what was the matter. The poor fellow told him, and asked him to carry him down to the cockpit. The man immediately took him on his back, and was proceeding below with his burthen,

when a shot passing at the moment struck the disabled man in the head, and smashed it to atoms. The Irishman, unconscious of this second disaster, proceeded to the cock-pit with the headless trunk of the poor man, and was quite astonished by one of the surgeons saying to him, "Why, Pat, what is the use of your bringing us a man without a head?" "Arrah, now," said Pat, "and sure he told me that it was only his legs, poor fellow!" I should not have mentioned this circumstance, but to show you the revulsion of feelings that such a scene as a battle must occasion in the minds of human beings, when the death of a fellow-mortal can be spoken of so lightly. But such is the case; and though before entering into action many hearts tremble for the result, yet after the first or second discharge of the guns, they become steeled to everything, and a comrade killed by their side will perhaps only occasion the remark of "Poor Tom, he's gone!" and the body is thrown overboard; while perhaps the next victim may be the man who made the exclamation.

It is after the battle is over, and only then, that the true feelings of human nature again come into play; when the thinned ranks of their mess-mates tell of the horrors of

war; when anxious glances are cast around for the sight of some dear friend: and now the man who in the heat of the strife could jest upon a fallen comrade, scarce dares to ask where is Harry? or where is Ned? and would rather remain with the faint hope that he is only wounded and under the doctor's care, than by asking the question be told at once that his messmate is no more.

But to return to our subject. The ships had drifted apart some short distance, and for a time, as if by mutual consent, firing had ceased in both. We did not know whether the enemy had struck or not, from the dense mass of smoke which enveloped every object around us. As this gradually rolled away, we discovered that the Frenchman's foretop-mast was broken off and hanging by the rigging. Her sails and cordage were most dreadfully cut up, but the admiral's flag was still flying at the main, and we knew she had not surrendered. Our own ship had suffered a great deal, her sails and rigging being in little better plight than our opponent.

Not much time elapsed, however, before we recommenced the action, as there was evidently an inclination on the part of the enemy to haul off; but that was not

our intention, we did not mean her to slip through our fingers quite so easily: and the broadside we gave was quickly returned.

At this time, as I was standing on the quarter-deck, a shot struck the mainmast, knocking the splinters about in every direction; one of which unfortunately struck my leg just below the knee, which shattered it so much that the doctor stated I must submit to have it amputated. I will pass over the tale of my sufferings whilst undergoing and after the operation, merely remarking, that though I can now trudge along pretty well upon my timber toe, as I call it, and am not troubled with corns on it, still I would much rather have one of real flesh and bone.

Whilst lying in my cot after the operation had been performed, a tremendous cheer rang through the decks, and many of the poor wounded fellows around me endeavoured to join in it. They well knew its meaning, and the cry of "victory!" was caught from man to man.

Although one foe had struck to us, our ship was evidently engaged with another opponent; and that pretty warmly too, for her guns were discharged with the utmost rapidity. This proved to be the case, as I was told by one of my messmates who had received a musket-ball in

his arm, which had broken it, and was come to have it dressed.

From him I learnt something of what was going on with the other ships. It appeared that Nelson was in his glory, with a three-decker of 120 guns on one side of him and a seventy-four on the other, and that he was returning the favours of each with as much despatch as possible; in other words, death and destruction were abroad, and hurrying many into the presence of their Maker, whether prepared or not for the awful change.

Another cheer now sounded through our ship; our new enemy had surrendered, and the firing ceased. But guns were still to be heard from some ships in the distance, which were still in combat. Both the ships engaged with Nelson had struck, but the seventy-four was on fire. Nelson was therefore obliged to haul off with his larger prize, to prevent his own ship catching the flames. The seventy-four having surrendered, of course every effort to save her crew was made, as it was found impossible to stop the ravages of the devouring element. Boats were despatched from every ship near for this purpose. It was attended, however, with considerable danger, as many of the seventy-four's guns were loaded, and as the flames

reached them they became heated, and went off. However, most of the crew were saved; those only who lay wounded in her cockpit were the exceptions.

It was impossible to relieve them, for now the flames had enveloped the ship fore and aft; and frequent explosions took place, as boxes of powder and cartridges which had been got ready for serving the guns were ignited.

The evening had now closed in; it was dark, and the battle ceased. Besides the seventy-four I have spoken of, two other ships were on fire at some distance from us, but whether friend or foe we could not tell. We ascertained shortly after that one was an English forty-gun frigate, and the other a French fifty-gun ship; but the fire in both was shortly extinguished, and not much harm done.

As I lay on my bed of suffering, I heard about midnight a sudden and terrific report, followed by a rumbling sound like the rolling of peals of heavy thunder. The Frenchman had blown up, and pieces of flaming timber and even some human bodies, were cast into the air. The ship continued burning until she was consumed to the water's edge, when the remains of the hull went to the bottom.

Those of the enemy's ships which had not surrendered hauled their wind during the night, and got away; leav-

ing us the victory, with fourteen prizes—namely, two 120-gun ships, two of 100 guns, four from seventy-four to eighty-four guns, and six frigates and corvettes; so that on this occasion, with the seventy-four burnt, they lost fifteen vessels

In the morning the remains of the French squadron were discovered hull down, making the best of their way to Toulon. Some of our best sailers who were in a condition to do so, made off after them; but they did not get up with them, as the wind was light. From the peculiar build of French ships, they sail better in light winds than ours; but we generally fore-reach upon them in a stiff breeze. On this occasion, as the French ships got under the protection of their own coasts, our ships were obliged to haul off, and make the best of their way to rejoin the fleet.

We had done pretty well for one day, with fourteen prizes, and more than 6000 prisoners.

I must pass over the accounts of the killed and wounded on both sides, as it is a subject on which I am sure my young readers would not wish me to dwell.

Immediately after the action, most of the fleet with their prizes proceeded to Malta for a temporary

repair of damages, after which our ship was ordered for England.

A few words here, descriptive of Malta, may perhaps be interesting to my readers. This island lies opposite to the south angle of Sicily, from which it is about 60 miles distant. It is 17 miles long and about 8 miles in breadth at its broadest part. Its coast is generally steep and rugged. Every portion of the soil is cultivated with the greatest care, and where the soil is deficient, the deficiency is supplied by bringing ship loads from Sicily. It has a healthy climate; frost and snow are unknown. Indigo, saffron, and cotton are successfully cultivated. Indeed most of the vegetables of Europe and Africa are easily grown. The Knights of St. John of Jerusalem occupied it in the sixteenth century, and they erected many fortifications, and defended it against the repeated attacks of the Turks.

The approach to Valetta, which is at the eastern end of the island, is very picturesque. The first, or northernmost harbour is used for the purpose of quarantine, where, to prevent infection, ships with their crews who have come from places infected with disease or plague, are compelled to remain a certain number of days, without any inter-

course with the shore, until it is proved that no cause for fear exists; to ascertain which proper officers are appointed. A vessel under quarantine has always a yellow flag flying at the mast-head, as a signal of the fact. A heavy penalty is awarded for a breach of the quarantine laws.

The southern, or principal port of Malta, is large and safe; and the water so deep close to the shore, that a line-of-battle ship may go alongside the quays, and take her supply of water and provisions without using her boats.

The harbours are guarded by forts on both sides, with four ranges of guns; the lowest range being nearly level with the water. This island is of great importance to this country as a station for ships, and as a garrison for soldiers.

Amongst other phenomena to be met with in the Mediterranean, is the frequent rise and fall of volcanic islands; one of these suddenly appeared in the neighbourhood of the coast of Sicily. A party in a boat set off one moonlight night to explore it, one of whom gives the following description:—A little before sunrise we were warned of our proximity to the island by sundry explosions, and at a short distance saw two hills surmounted with smoke. This island had arisen upon a sandbank, well known to the fishermen. We proceeded towards it, and

when within a short distance, the sun rose magnificently behind it, shining through the smoke with a most singular effect. We commenced our examination on the north-west side, where it rose about 120 feet above the sea; but were deterred from approaching it by a dense white cloud of smoke which issued from that side. We rowed round, keeping at about twenty feet from it, till on the east side we found a flat sandy shore which seemed to afford a good landing.

After some minutes' hesitation, one of the sailors, followed by myself and others, leaped ashore, and found a tolerably firm footing. No one caring to advance at first, one of the party went forward alone; and seeing some bright yellow sand, exclaimed, there was plenty of gold, when the rest set off after him, but soon found that we were deceived. Observing, however, that the footing was tolerable, we scrambled up to the edge of the crater, within which, at about forty-five feet depth, were two small lakes of boiling water. In the first the water was a light yellow, in the second reddish; and both bubbled up and emitted vapour.

We now returned to the beach, and while amusing ourselves by examining the stones, ashes, &c., which had

been thrown up, we found a fine sword fish, stupified and half dead. This we secured and took to the boat; it weighed about sixty pounds.

In continuing round the mount, we were obliged to keep nearly a mile off on one side, as the air was so charged with sulphur that we could hardly breathe. Here we saw immense clouds of smoke and steam, rising as it were out of the sea to the height of 2000 feet or more. Some months after, this island totally disappeared, to be perhaps formed again in some other place; as it is evident that the bottom of the sea in this neighbourhood is charged with materials for forming volcanoes.

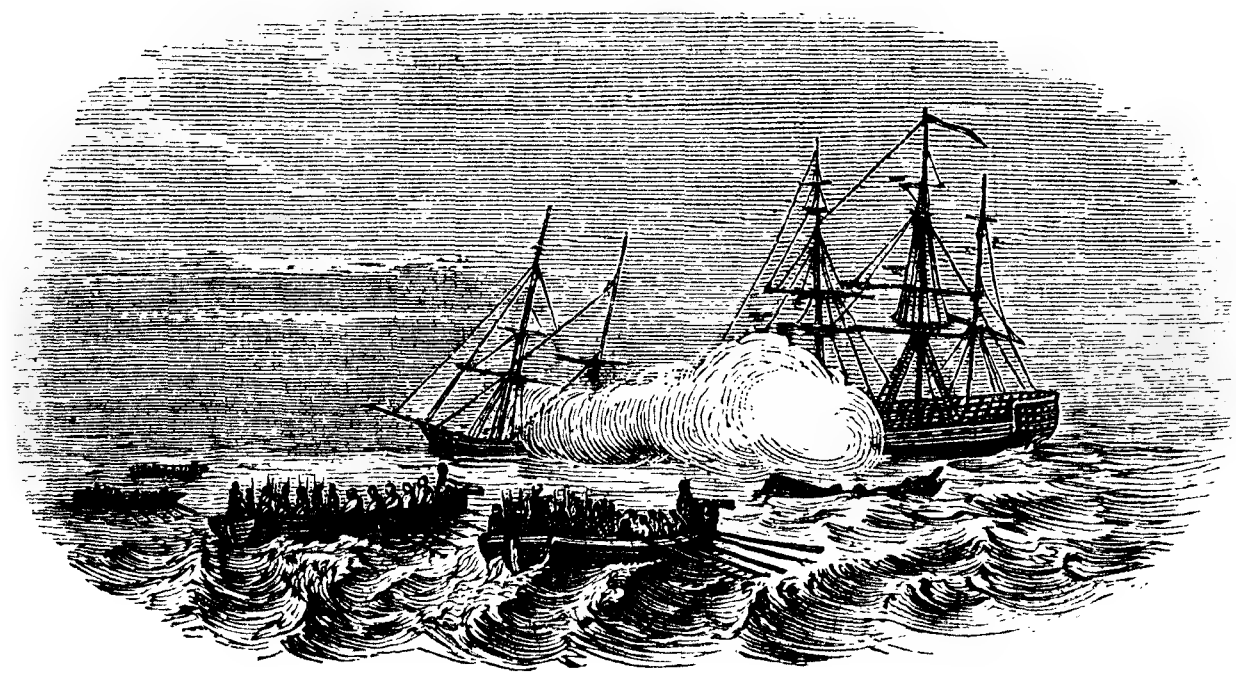
In due time our damages were repaired, and we now made sail for England.

"Yes! the hope of return is the joy of a tar—
'Tis his compass, his helm; 'tis his guide, and his star
'Tis impressed on his bosom the moment he sails—
It shortens long nights, and it quickens light gales."

SEA SONG.

About a week after we got through the Straits of Gibralter we passed Cadiz, on the south-west coast of Spain; where Lord Nelson was busily engaged with the enemy in which service he had a number of gun-boats.

Gun-boats are large row-boats, fitted to contain a number of marines as well as seamen, rowing and carrying a swivel-gun at the bows. They are principally used in what are called cutting-out expeditions. The annexed cut is a representation of one of these, in which a number of gun-boats are engaged cutting out two of the enemy's ships, a frigate



and a schooner; who in their turn are endeavouring to beat off their assailants; and one of the gun-boats may be observed sinking from a shot having struck her and knocked her to pieces. The frigate is guarded by a strong

netting, called a boarding-netting, which is suspended from the rigging on all sides. This net for a time prevents the seamen from getting on board the ship, during which they are exposed to a tremendous fire from the enemy; their only resource is to cut away or destroy it—a very dangerous undertaking, but frequently done. To insure attention among them, Nelson was accustomed to row among the boats after they had been ported for the night.

The Spaniards had, on their part, equipped a number of gun-boats and large launches as a necessary defensive precaution, in which they also rowed guard to prevent the blockaders making so near an approach as otherwise they might have done.

In consequence of these mutual preparations frequent skirmishes took place: in one of these Lord Nelson and the Spanish commander were personally engaged; the former in his own barge with its usual complement of ten men and a coxswain, and Captain Freemantle as a volunteer; the Spaniard in a galley of twenty-six oars and thirty men.

The Spaniards, confiding in their numbers, shrank not from the contest; the crews therefore of both boats fought desperately hand to hand.

John Sykes, an old follower of Nelson, saved his life twice by parrying the blows aimed at his commander; and actually interposed his head, receiving a cut intended for the admiral.

The Spaniards continued to fight till eighteen of them were killed, and the rest, including the Don himself, severely wounded. The conquest of the enemy was then achieved, and the proud superiority of Englishmen never was displayed in more glowing colours.

Having mentioned Admiral Nelson, I cannot refrain from stating another case in which his daring and hardihood were conspicuous: it was at the siege of Calvi.

Twenty-five pieces of heavy ordnance (cannon, were dragged up to the batteries, mounted, and all but three fought by seamen, with only one artilleryman to point the guns. Calvi surrendered after a siege of fifty-one days. The loss from the enemy was not great, but Nelson received a serious injury; a shot from one of the enemy's batteries striking the ground near him, drove the sand and gravel with prodigious force into one of his eyes. This accident, with all its attendant anguish, was incapable of forcing him from his post. With a ribbon tied over his inflamed eye, he persisted in directing the batteries till the

last gun of the enemy was silenced, and Calvi surrendered. He wrote to Lord Hood the same day, but complained little; in fact, he suffered it to confine him only one day: but the sight of the eye was irrecoverably lost.

Whilst the Prince of Wales is proceeding on her homeward voyage, I will give you an account of the inspection, and church service of Sundays, on board a man-of-war.

At seven o'clock in the morning the hammocks are piped up, and stowed in the nettings. The decks having had a double washing on the Saturday, are cleaned and carefully swept, so that everything may be in order for divine service.

All the falls of ropes are flemished down (carefully and closely coiled); after this they pipe to breakfast. The word is then passed for muster at five bells (half-past ten o'clock), with the order to appear in "duck frocks and trousers," or "blue jackets and trousers," according to the weather and the climate. At one bell, that is, half-past eight, the first watch is called, and the ship is swept clean in every part; when finished, the different mates report to the warrant officers, and they to the first lieutenant, who goes round to see all ready for the chief inspection. The captain then desires the lieutenants to tell

the officer of the watch to "beat to divisions," which is done by the drummer. The ship's crew then range themselves in a single line round the forecastle, along the gangways, both sides of the quarter-deck, and round the main deck. The marines are drawn up across the after-part of the quarter-deck. The lieutenants, with the midshipmen, are each at the head of their respective divisions, in full uniform. The captain then visits every part of the ship, inspecting everything closely. The men are then dismissed, and the church is ordered to be rigged on the quarter-deck; and in bad weather, on the main deck. A binnacle, or compass-box, is used for the pulpit, from which the chaplain reads the prayers, and delivers his sermon. The officers sit around on the chairs taken from the captain's cabin and ward-room, and the men manage with their mess-stools, capstan-bars, resting on tubs, or with the gun carriages. They are screened from the sun by awnings spread over head. During the service a pendant (flag) is hoisted at the peak; and when it is over the men have the remainder of the day to themselves, excepting those who perform the duty of the ship, which is still sailing onward, and must be attended to.

It was on a bright morning in May when we hove in

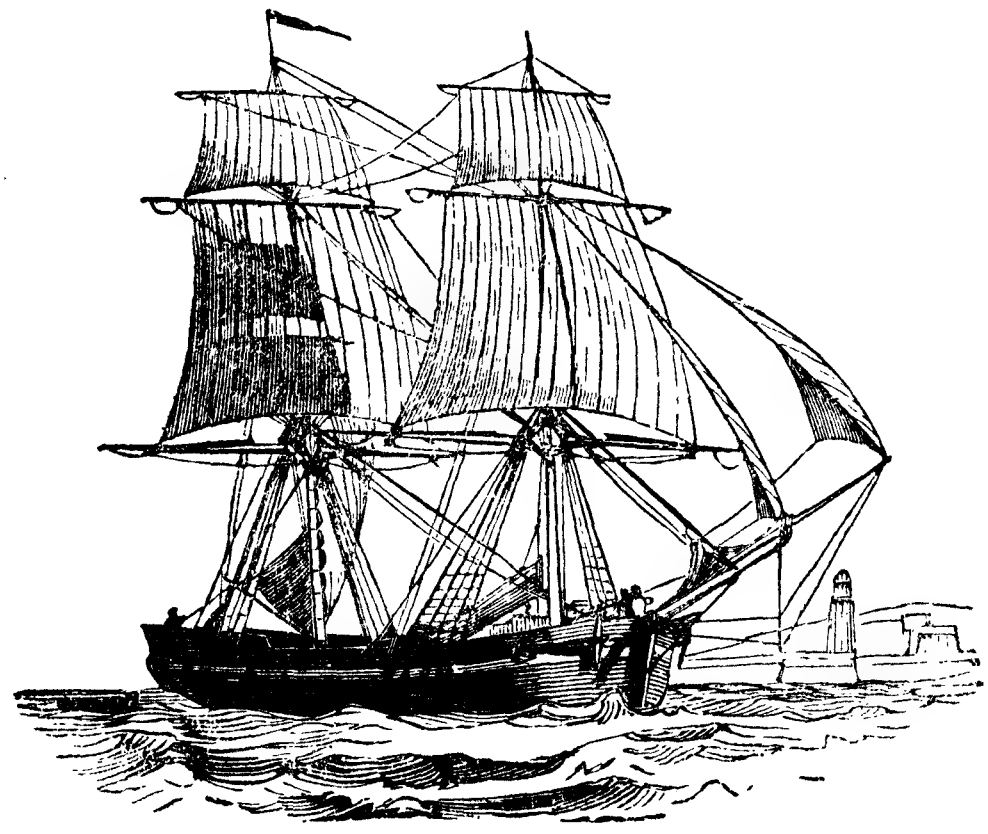
sight of land—when our native shores again met our view. And oh! how anxiously did everyone look forward to the moment when he should be allowed to go on shore. At length we arrived at Spithead, where we anchored, and saluted the port admiral. Shortly after orders came for the ship to be paid off, to go into dock for a thorough repair.

At the appointed time all hands obtained their wages, and every man quitted the ship to revisit his home, to tell of his disasters, and relate to his wondering friends the scenes and adventures he had met with; and to spend his money. Unfortunately for him, a Jack Tar is seldom at his ease whilst he has any in his pocket, and it is frequently lavished away by him in a most thoughtless and careless manner.

We had mostly done pretty well in this voyage, had lost but a few hands considering the very hazardous services we were engaged in, and had all got something considerable in the way of prize-money, to receive.

I soon hastened home after leaving the ship, where I was now alone master; as I have already told you that my dear mother died whilst I was at sea. Everything about me was strange and uncomfortable, and after re-

maining at home only a few months, I again sought to be employed, which after a time, with my uncle's assistance, I obtained, and I went out in a sloop of war as senior midshipman, when we accompanied a convoy. For further information on this subject, my young readers will permit me to draw their attention to the next chapter.

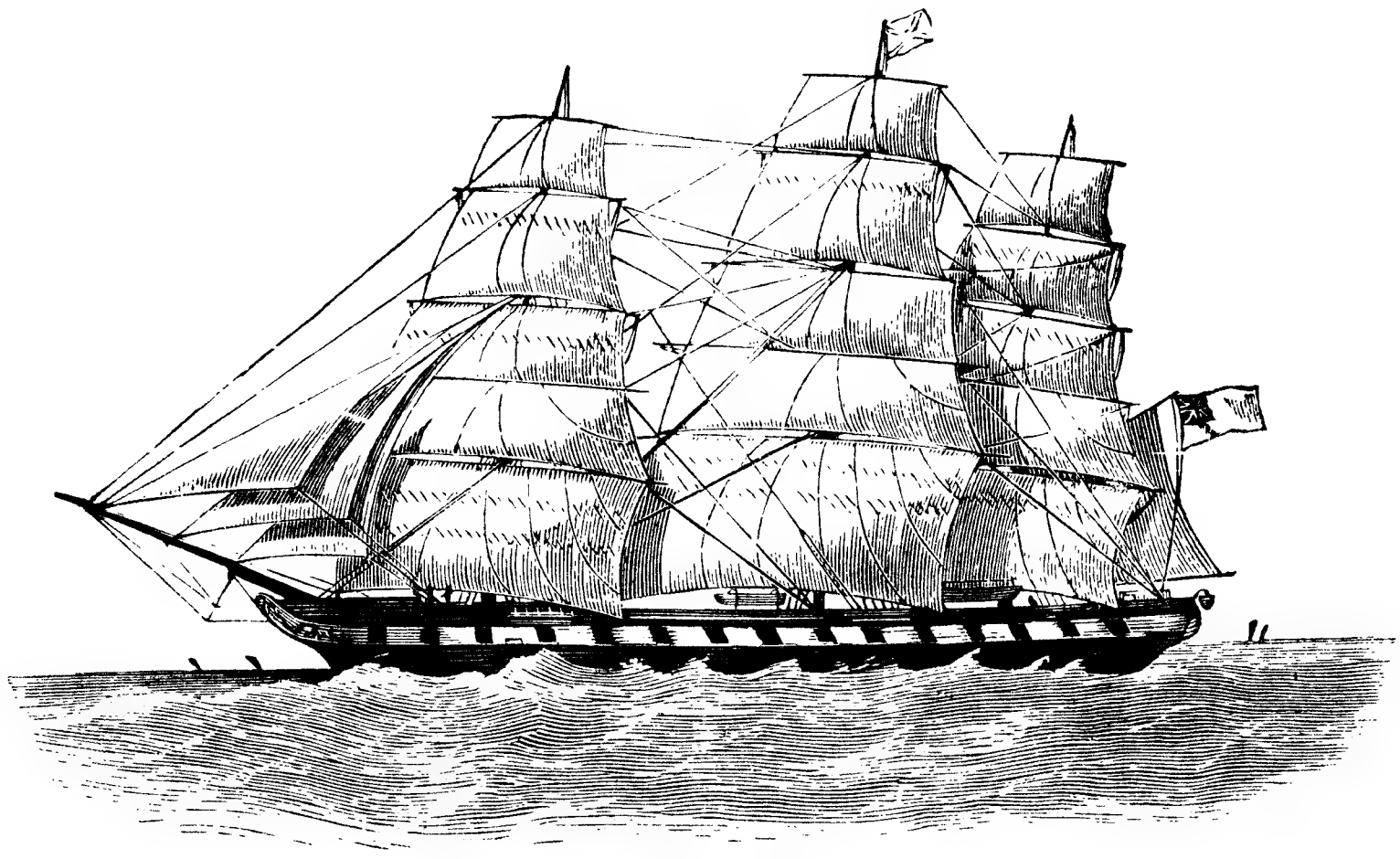


CHAPTER XXI.

The convoy—Sloop-of-war—Merchant Ships—Indiamen—East India Company—Madeira—Vessel attacked by a privateer—Hailing the ship, &c.—The rescue—The privateers taken—Barbadoes—Sail for Pensacola—Nelson in the Albemarle—Breakers a-head—Curious agitation of the water—The waterspout.

VESSELS bound for foreign ports, in war time, are accompanied by men-of-war, to protect them from falling into the hands of an enemy. On these occasions, a large number of merchant-vessels assemble; and, when sailing under the protection of men-of-war, it is called a convoy.

On this occasion there were more than 200 sail of merchant-vessels; and a most splendid sight it was, as they all got under-weigh from the Downs. Amongst them were ships of every class and description. Richly ornamented Indiamen, that, to all outward appearance, looked like men-of-war; barques, also three-masted vessels, but without square topsails to the mizen, and as large as 800 or 900 tons burthen; brigs, vessels with two masts, both square-rigged, as represented in the annexed sketch.



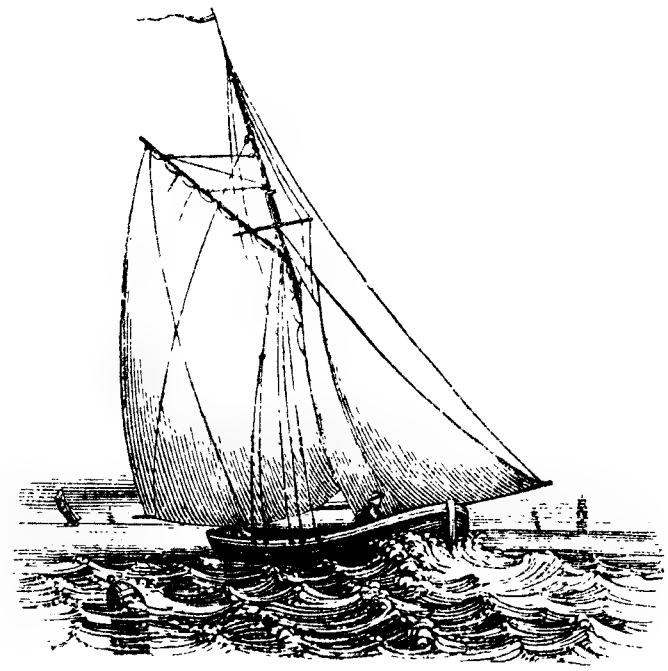
INDIAMAN.

The cabins of the Indiamen were fitted up in a superb style; having their windows draped with damask silk, their sides richly panelled and the mouldings and cornices gilded; whilst harps, pianofortes, and other musical instruments, were provided for the passengers.

The East India Company was at the time in full power and activity. It was originally founded by charter in the year 1600, and this charter was from time to time renewed, until in 1743-4, we find the company lending the Government three millions at three per cent. per annum, for renewing their charter. At this time they were all-powerful in British India—but in 1773 an Act was passed for the better regulation of the Company, and in 1774 the British Government appointed Warren Hastings the first Governor-General, other appointments and alterations were afterwards made, and finally the powers of the Company were transferred to Her Majesty the Queen in 1858, and all monopoly in the trade to India was abolished, and Her Majesty assumed the title of Empress of India.

Besides the above, there were schooners and sloops, and some Dutch vessels, which had availed themselves of the protection of our men-of-war, against the French, an enemy they had to dread.

A sloop is a vessel with one mast, carrying a foresail, jib, and flying-jib. The sail which in square rigged vessels, like the brig and frigate, is called a spanker, is, in a sloop or cutter, called the mainsail. She also carries a



gaff topsail, like a schooner; but cutters, which are similar vessels, carry, in addition to the above, a large square yard, upon which is set the square mainsail.

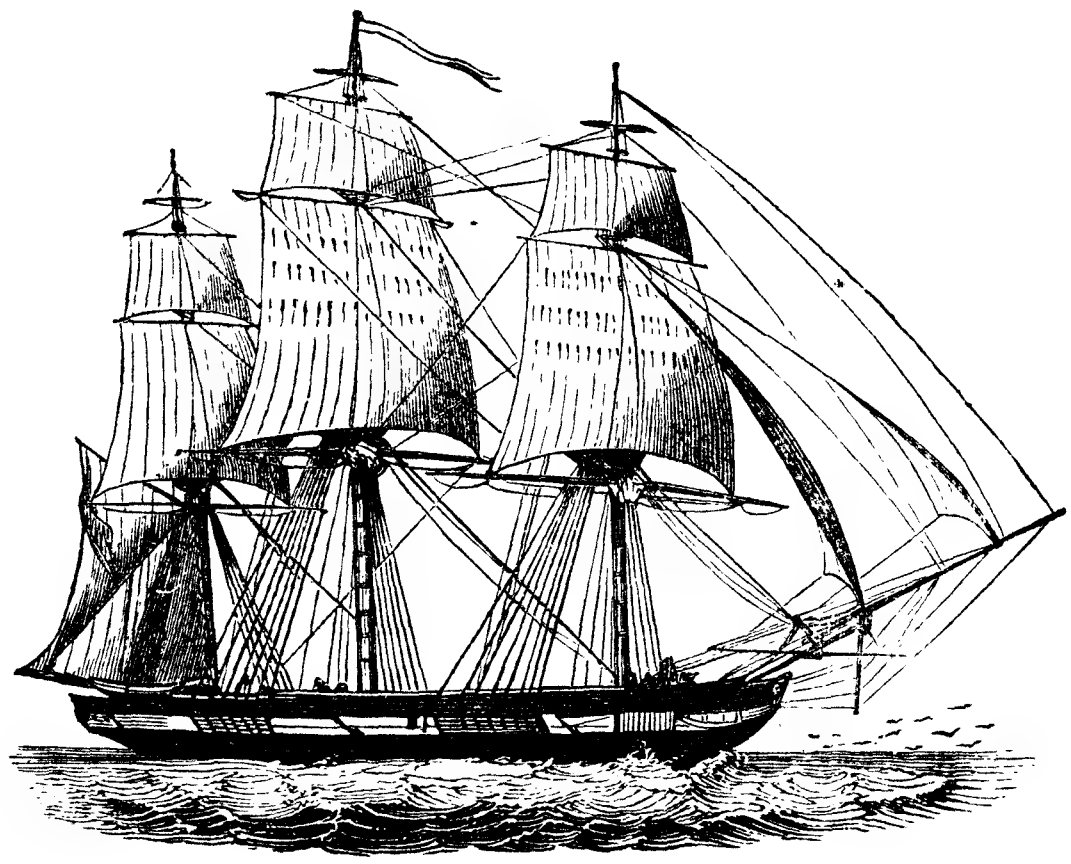
The protectors of this large fleet of ships, were a line-of-battle ship, of 100 guns, which led the van; two frigates, of forty-four guns each; and three sloops of war, besides cutters and tenders.

The frigates and sloops-of-war, being fast sailers, had no regular station, but kept cruising about the fleet, to take care of the dull sailers and stragglers.

We made Madeira in about a fortnight, but did not anchor; continuing our course for about three weeks, without anything particular occurring; when, one fine evening, after we had progressed considerably into the Trades, and were within 300 miles of Barbadoes, we happened to be the sternmost of the men-of-war, and had the agreeable task of whipping in the sluggards.

It had been a most beautiful day; the sun had set bright and clear, and we were running along before the wind—sometimes called running on a bow-line (in which position the yards are right across the deck). There was no moon; and although the stars shone out brilliantly, yet it was dark. The commodore fired a gun, and showed a number of lights (a signal for the sternmost ships to make more sail, and get close up). We repeated the signal, and stood on; hailing the dullest or slowest sailers of the merchantmen to make more sail, and firing a musket-shot now and then over the more distant, to keep them awake. By and bye we saw a large merchantship suddenly "haul her wind," and stand across our

bows. (This was done by bracing up the yards into an oblique direction across the deck).



We could not understand what was the reason of this; and our first lieutenant ordered a marine, who was standing by him, to get a musket, and fire over them.

It was done; and the ship immediately bore up on her course again (right before the wind as before) and we ranged alongside of her, on her larboard quarter.

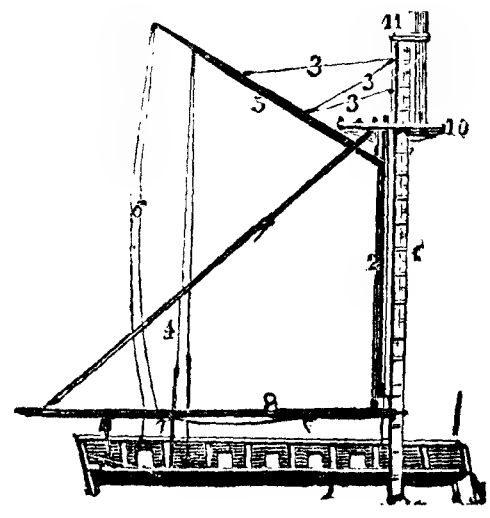
"Ho! the ship, ahoy!"

"Hillo!" was the reply.

"Make more sail, sir, and run into the body of the fleet. Why don't you keep in the course of the commodore (the officer in command of the squadron is designated by this title)? What did you mean by hauling your wind, just now?"

A very unintelligible reply was given to this question; and our lieutenant concluded that something was wrong. We hailed them again, ordering them to heave-to,* and to

* The ship is said to be hove-to, when the main and main-topsail yards are braced up in a contrary direction to the fore and fore-topsail yards. This causes their sails to be filled by the wind, in opposite directions, and has the effect of stopping the ship's way (progress). The position of the sails, in this case, is shown in the drawing of the slaver brig hove-to, at page 291. The light at the peak, is a lantern hoisted to the end of the gaff. The ropes by which the gaff is hoisted, are called throat and peak haliards. The throat haliard is the rope fixed to that end of the gaff which slides up and down the trysail-mast; and the peak haliard is a rope rove through blocks on the gaff, and between the cap and round-top of the mast, as represented in the sketch.



hoist a light at the peak, as we should send a boat on board of them.

We had hove-to, and were in the act of lowering a boat to send to her, when the officer rattled out, "Keep all fast with the boat; I cannot comprehend what that fellow is about: he has not hove-to." Once more we were close to him, and we hailed to know why he did not heave-to, but received no reply.

Presently we could perceive a confusion and noise of struggling on board, and angry voices, as if people were trying to force their way up the hatchways, from below; and a heavy thumping on the deck, and a creaking of the blocks, and a rattling of the cordage—while the main-yard was first braced one way, and then another, as if two par-

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No. 1, the mizen-mast; 2, the trysail-mast (the throat haliards lead down beside it); 3, 3, 3, the peak haliards; 4, the vangs; 5, the gaff; 6, the signal haliards, at the peak; 7, the topping lift; 8, the boom; 9, the after part of the ship; 10, the mizen-top; 11, the cap.

Outside the head of the sail are two ropes, called vangs, which are brought down to each side of the ship; their use is to steady the gaff. At the extreme end of the gaff, called the peak, is a small block, through which the signal haliards are rove.

Another stout rope, leading from the trussel-trees to the end of the boom is called the topping lift; this raises and carries the weight of the spanker-boom

ties were striving for the mastery. At length a voice hailed, distinctly, "We are captured by a ——." A sudden sharp cry, and a splash overboard, told of some fearful deed.

"We are taken by a privateer or pirate," sung out another voice. This was followed by the sound of a heavy blow, and all was again silent.

By this time all hands had been called in our ship; and the word was passed to load two of the foremost carronades with grape-shot (a number of iron bullets made up in a cluster, and all fired at the same instant).

"On board, there—get below, all you of the English crew, as I shall fire with grape," hailed our captain.

This hint was taken; but we did not fire, as the ship came to the wind (broached-to), and we rounded-to under her lee (her starboard quarter); and a boat, with a lieutenant, myself, and twenty hands, armed with cutlasses, were sent on board.

A horrible scene presented itself, when we reached her deck. At the gangway (which, you will recollect, is in the waist or middle of the ship) we found a dead body—doubtless the poor fellow who had hailed us last—and the mate lashed to a ring-bolt, and gagged. When we

released him, he told us the ship had been surprised by a privateer schooner; the second mate, who hailed us first, was stabbed, and thrown overboard; and the unfortunate man killed at the gangway, was the boatswain. The vessel's crew were all confined in the forecastle.

We found that the master, and twelve men belonging to the privateer, were now in the cabin.

We immediately released the men, and armed them; and hailed the ship, to let our captain know we were safe on board.*

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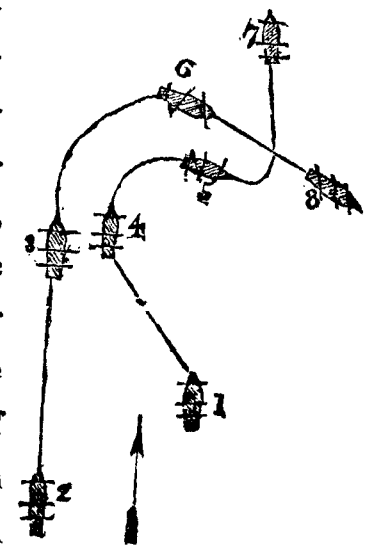
* The annexed diagram, with its explanation, will render the situations of the two vessels, referred to in the preceding pages, more intelligible to my readers.

Fig. 1, represents the place of the Indiaman, when she first hau'ed her wind; 2, the position of the sloop-of-war, a little astern of her; 3, the place of the sloop-of-war, when she ranged up alongside of the Indiaman, at 4. Fig. 5 shows the place of the Indiaman, as she come to the wind, or broached-to; and 6 is the position of the man-of-war, when she hove-to under the lee quarter of the Indiaman. Fig. 7 denotes the Indiaman steering her proper course into the body of the fleet; and 8, the man-of-war, bearing up in chase of the privateer schooner. The lines between the vessels, represent the course in which each moved



Our ship, the Zephyr, then made chase after the schooner, which she captured.

I accompanied the lieutenant, with our men, down to the cabin, where a truly horrible scene presented itself. But, as it is not my intention to describe the horrid scenes that in war time, I am sorry to say are constantly brought before our eyes, I will only state that, having captured the lawless wretches who had been the perpetrators of such shocking crimes, and released the captain and passengers of the merchantman, whom we found strongly pinioned, we got the vessel into her course again, and made all sail into the body of the fleet.

We at length arrived at Carlisle Bay, Barbadoes, where the privateer's crew met their reward; that is, they were all hanged.

Barbadoes is one of the Caribbees, and the most eastern of the West India Islands. It is about twenty-one miles long, and about fourteen broad. It contains four towns; viz. Bridgetown the capital, Speight's Town, Austin's Town, and Jamestown. Its population is very great, said to be about 100,000.

The next day we weighed, and sailed with the Trade Winds for Jamaica, where we arrived in about a week.

Here we had despatches to deliver to the admiral of the station; and, having performed this duty, and had two or three days' run ashore, we departed with a portion of the convoy, to Pensacola, in Florida; the other ships taking the remainder of the convoy to their various destinations. We arrived at Pensacola without any event of consequence occurring. Here we remained only a few days, and sailed again for Jamaica.

Whilst in this latitude, I must mention a rather curious event happening to Lord Nelson—I say happened, although he, in his judgment, had calculated upon something of the sort occurring.

"Some time after Captain Nelson had joined Lord Hood, in the West Indies, the admiral having received several contradictory accounts of the number of the enemy's ships at the Havanna, and being consequently unable to rely on such varying reports, was desirous of sending, for the requisite information, one on whom he well knew he might depend. Captain Nelson was dispatched upon this business, which he executed with his usual success.

"He reflected that the Albemarle, which he commanded, from its once being a French ship, might easily be taken for one on this occasion. Having, therefore, sailed for the

Spanish Main, he hoisted French colours, and lay off the Havannah harbour.

" While he remained in this situation, a king's launch (large boat), belonging to the Spaniards, and filled with scientific gentlemen, in search of specimens in the various branches of natural history, passed near; and, being hailed in French, came alongside, without suspicion, and answered all the questions that were asked respecting the number and force of the enemy's ships.

" The astonishment of the crew is not to be described, when they found themselves prisoners of war, on board an English frigate. The worthy captain soon satisfied them that they had not fallen into the hands of freebooters; and, in consideration of the scientific pursuits in which they were engaged, the manner in which they had been captured, and the requisite information with which they had furnished him—he told them (after having entertained them with the best his table could afford), that they should be at liberty to depart whenever they pleased."

Two or three days after we sailed from Pensacola, the weather, which had been squally, unexpectedly lulled, and the sea abated considerably; when one morning we were very much surprised to hear the man at the mast-head

sing out to the officer of the watch, "Breakers right a-head, sir."

"Breakers!" said the officer, "it is impossible; the man must be mad."

"Breakers close under the bows," sung out the boatswain, from forward.

The officer instantly rushed to the forecastle, while I kept close to his heels. We looked out a-head, and there we certainly did see a splashing, and boiling, and white foaming of the ocean, that unquestionably looked like breakers.

Gradually, this splashing and foaming appearance took a circular whisking shape, as if the clear green sea, for a space of a hundred yards in diameter, had been stirred about by an immense ladle, until everything hissed again; and the curious part of it was, that the agitation of the water still preserved its distance a-head of us; for, as we progressed, so the breeze appeared to float it onwards.

At length the whirling circle of white foam ascended higher and higher, and then gradually contracted itself into a spinning black tube, like a funnel or trumpet, with the bell or broad end in the clouds, and the small one resting on the water.

"Is the boat-gun, in the forecastle, loaded?" asked the captain.

"It is, sir," was the answer.

"Then bring it to bear on the column, and fire."

The gun was discharged, and down rushed the black wavering pillar, in a watery avalanche; and, in a minute after, the dark, heaving billows rolled over the spot it rose from, as if such thing had never been.

This troubling of the waters, my young readers, was a waterspout; which is neither more nor less than a whirlwind at sea, which gradually whisks the water round and round, as you may have seen straws carried up by the wind—until it is raised in this form to the height of 100 feet, or more, when they will break of their own weight, if left to do so; but a sudden concussion of the air, from the discharge of a cannon, is nearly certain to break them.

CHAPTER XXII.

The slaver—Mutiny of the slaves—Its result—The captain of the forecastle and the drowning boy—Arrival at Jamaica—The Prince of Wales joins the squadron—Ordered to the East Indies—Crossing the line—The Souffleur—Adam's Peak at Columbo, Ceylon—The Pearl fishery—Bay of Bengal—Catching dolphins—The squall, and its effects—Jury-masts—The Olympus—Madras—Massulah boats.

WE were now doomed to see something of the horrors of the slave-trade, now happily of less frequent occurrence than in the time of which I am writing. All honour to Wilberforce and those who acted with him in rousing public attention, which induced the English Government to take such decided steps in the matter, that in all British possessions slavery has ceased to exist.

Four days after we saw the waterspout, a large brig hove in sight, and showed American colours; we bore up "to speak her," and as we came within hail we heard a pistol-shot, and saw a negro fall into the water.

We supposed at first that it was a negro who had died and who, as is usual, had been thrown overboard; but the

next instant we saw him rise struggling on the surface, and shortly after he sank again to rise no more. We were now close to the schooner, and I was sent with a boat's crew to board her; having ordered them first to heave-to, which they did.

A scene of horror presented itself to me on mounting her deck, which exceeded all I had ever witnessed. The brig had a cargo of slaves from the coast of Africa, consisting of some scores of children under twelve years of age, confined in spaces which would scarcely allow them to sit upright; with nothing but the bare planks to lie upon; and the constant rolling of the vessel had worked their joints into wounds, and the poor little creatures were perishing with hunger

Four young men wounded and in fetters, were on the gangway; but who otherwise did not seem much the worse for the voyage. Another was placed astride the gunwale, with his hands pinioned behind him.

Seated upon the companion abaft (the entrance of the stairs leading to the cabin) was a stout man, whose clothing was stained with blood; his head was bound round with some cotton, through which the blood was oozing and his left arm bound up—evident signs he had been in

a severe conflict. This was the captain: most of his crew appeared to be more or less hurt, and all were evidently intoxicated. The captain was about to discharge a pistol at the negro, when I struck his arm up, and the pistol went off in the air. I thus saved the poor fellow's life.

I learnt that these poor famished children had devoted a part of their daily rations (food) to the support of their elder companions, to give them strength to overcome the master and crew of the brig, and with the ship to regain their native land. In this they had failed; and the poor fellow we had seen thrown overboard was the ringleader, whom the captain had shot when we heard the report of the pistol. As the brig proved to be under the protection of a neutral flag (and at this time we had no power over a slaver), after having censured the captain for his brutality, and rendered matters a little more comfortable for these unfortunate beings, we left them, and the vessel continued her course, and sold her cargo as slaves at the port to which she was destined. The poor negro whose life I had saved, I purchased of the captain, and of course gave him his freedom; and he continued with me a faithful servant for many years afterwards, until removed from this world by death.

Some few years since the English government, by paying a sum of money amounting to £20,000,000, have purchased the freedom of all the slaves in our colonies, since which time the traffic is forbidden; though it is persisted in occasionally. Our cruisers have orders to re-capture them whenever they have an opportunity; and some fast sailing vessels are frequently sent out into the regions where this inhuman traffic is carried on, to seize any vessels who may have slaves on board. The poor creatures thus re-captured, are sent to the English colony of Sierra Leone, on the coast of Africa; others to their own country, if they wish it, and some return to it from Sierra Leone: but when they arrive at the latter place, they are so well assured of the protection afforded them by residing in one of our colonies, that they seldom leave it, as on returning to their own country they are likely to be again seized and sold as slaves—an event which has frequently occurred.

Sailors are comical fellows; and although Jack likes his glass of grog, does not always do a good action for the sake of it, as the following will show :—

During a calm one day, some of the people were bathing alongside; and a studding sail was spread upon the water

for the use of those who could not swim, by suspending it from the main and fore-yard arms; thus a secure bath is formed. Some of the boys belonging to the ship were amusing themselves by floundering about, and at times venturing outside the leech-rope (edge of the sail). One of the least of them being taunted by his more expert companions with being afraid, boldly struck out; but had got only a short distance, when his heart failed him, and losing the power of keeping his head above water began rapidly to sink, to the horror of his companions, who could render him no assistance.

The captain of the forecastle, a tall fine-looking man, was standing on the shank of the sheet anchor, with his arms crossed, apparently asleep, and leaning against the fore-topmast back-stay. He had, however, been attentively watching the young party all the time, fearing that some mischief might ensue; and grunting out a warning to them from time to time, to which they paid no attention.

At last he desisted, saying, "they might drown themselves for anything he cared, for never a bit would he help them;" but no sooner did the sinking figure of the little boy catch his eye, than, joining his hands over his head, he

plunged in, and rising again with the bewildered boy in his grasp; calling to the others to take better care of their companion, he chucked him right into the belly of the sail.

The fore-sheet hanging in the calm nearly in the water, he scrambled up by it to his old station on the anchor; shook himself like a great dog, and then proceeded across the forecastle to shift himself.

The marine officer, who had seen the occurrence from the gangway hammock-nettings, stopped him, saying, "that was very well done of you, my man, and deserves a good glass of grog; tell the gun-room steward to give you a stiff north-wester on my account." The offer was well meant, but badly timed, so apparently thought Jack; for although touching his hat instinctively when spoken to by an officer, he made no reply till the marine was out of hearing, when he said to his messmates, laughing, "Does the good gentleman think I will take a glass of grog for saving the boy's life?"

Shortly after the above occurrence we again reached Jamaica. By this time the Prince of Wales had arrived; and in company with her the Olympus, seventy-four.

We ascertained that these ships were to proceed to the East Indies, and that we should join company.

I was exceedingly glad to hear this, particularly as I found that my kind uncle was still in command of her, and he wished me to join him. An exchange of midshipmen from one ship to another is easily managed, and on the following day I once more stood on the deck of the Prince of Wales.

As soon as the ships were in proper order for the cruise, we made sail; accompanied by the Olympus, seventy-four, and the Zephyr, sloop-of-war, for the East Indies.

Proceeding on our voyage, we in due time passed the Cape of Good Hope without any event worth relating.

On crossing the equator, however, I should tell you, my young friends, that the usual ceremonies were performed; for a sailor will have his joke, and on crossing the line it is always a general holiday.

When a ship approaches the line, preparations are made by the crew for their sport. One of the hands, a captain of the forecastle, is dressed up to represent Neptune, while another passes for Amphitrite, his wife; they are attended by a guard of honour, and the band strikes up, "Rule Britannia." Neptune holds in his hand a harpoon, as a trident; and he and his wife, seated on a gun-carriage for a car, proceed in state, attended by the crew dressed as sea

monsters, from the forecastle to the quarter-deck, where they hold their court. All like it very well, except the fresh hands; who have to undergo no very pleasant usage. After being treated like a king upon the quarter-deck, Mr. Neptune descends to the main-deck, where he sits with his wife on a throne, close beside a large wash-deck tub, better than half full of water. Those who have not crossed the line before, are now brought to the tub to be shaved; whether he will or no, is no matter. Here, seated on a plank on the edge of the tub, the fresh hand has his face smeared over with tar, to remove which a piece of rusty hoop iron, jagged like a saw, is used as a razor.

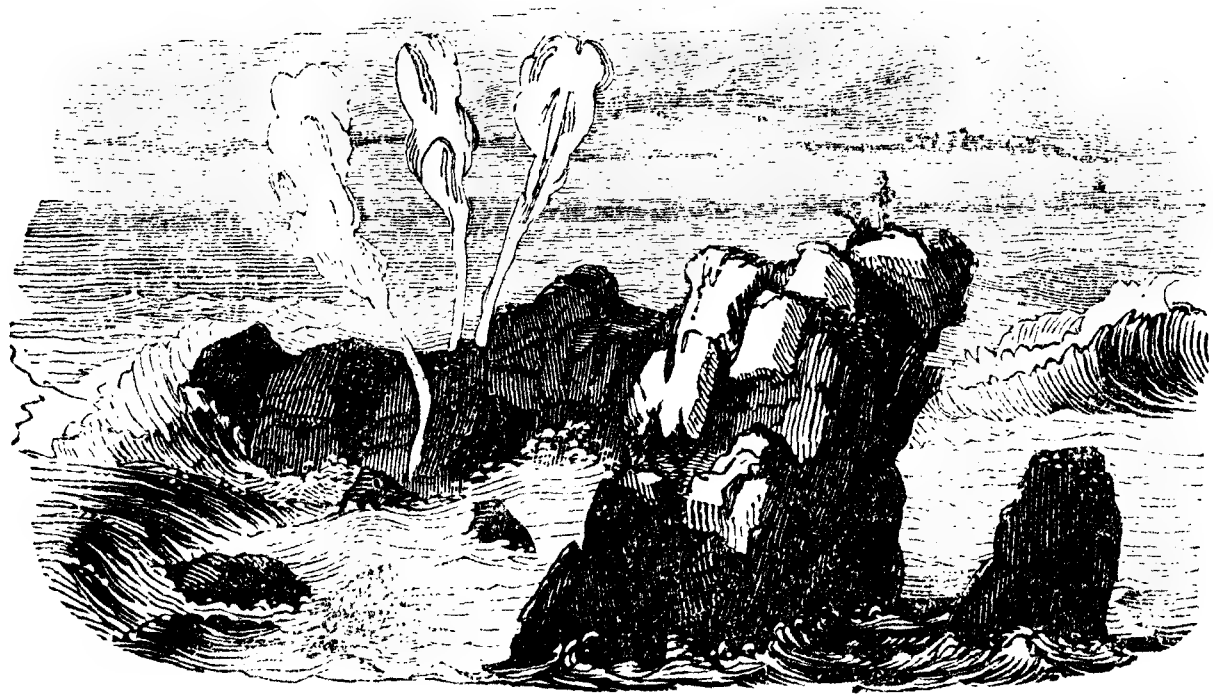
"Rather a rough method of shaving, you will say."

While the sailor is being shaved, he has questions put to him; but the moment he opens his mouth the tar-brush is poked into it, the plank is pulled away from under him, and he tumbles into the tub; out of which he scrambles the best way he can, and as he hurries away he is again attacked on all sides. Some souse him with buckets of water, or play the fire-engine full in his face; and others fling at him old swabs saturated with dirty water (mops made of bunches of old rope yarn, generally used for cleaning the decks). But enough of this.

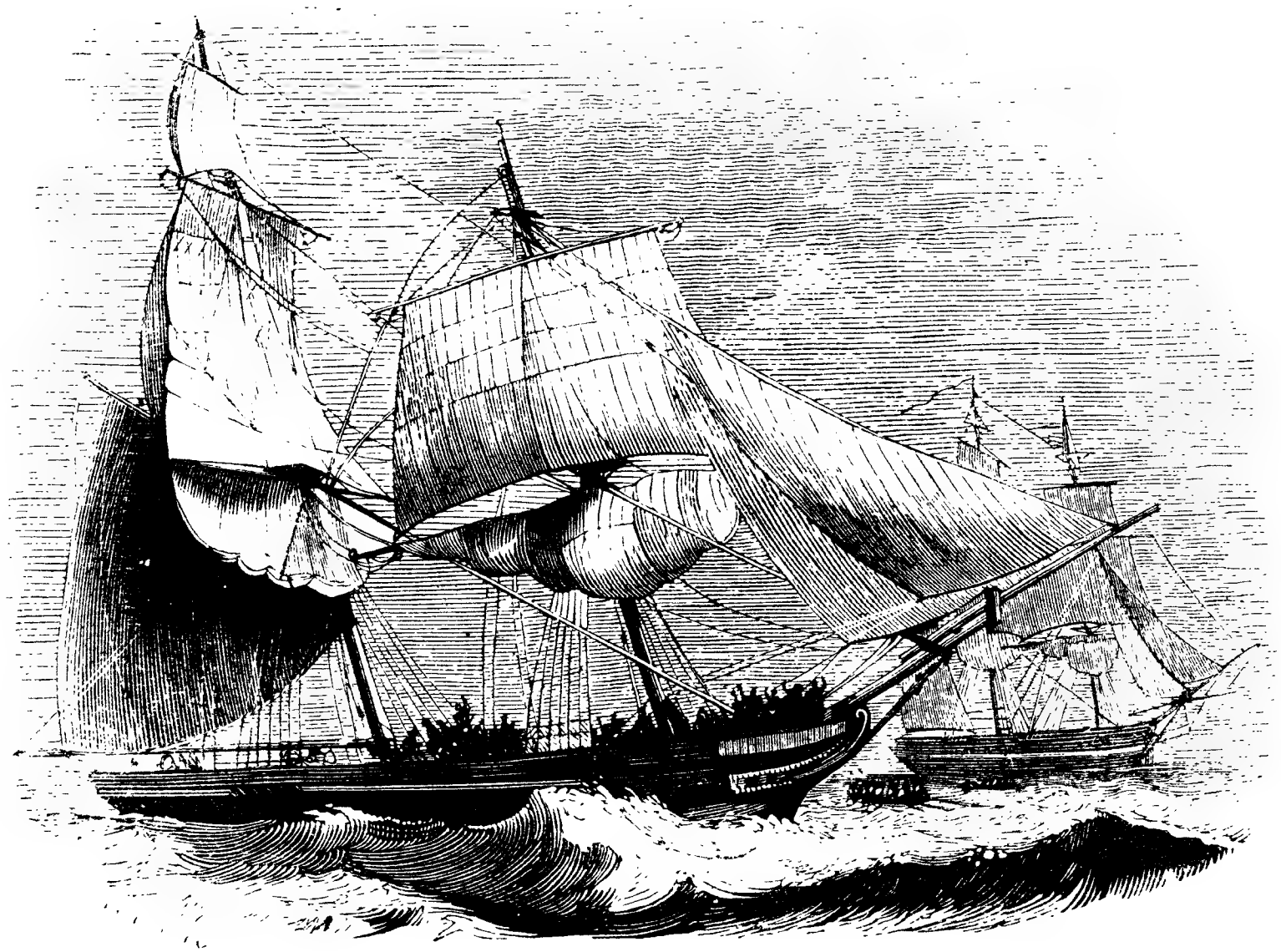
After passing the Cape, we made the Mauritius Islands in the Indian ocean, to the east of Madagascar. Here, on the south side of the main island, is to be seen a remarkable rock, called the "Souffleur," from the following circumstance.

A large mass of rock runs out into the sea from the main land, to which it is joined by a neck not two feet broad.

The constant beating of the tremendous swell which rolls in, has undermined this rock in every direction; till



it has, in some parts, the appearance of a gothic building



SLAVER BRIG HOVE TO – MAN-OF-WAR IN THE OFFING.

p. 288.

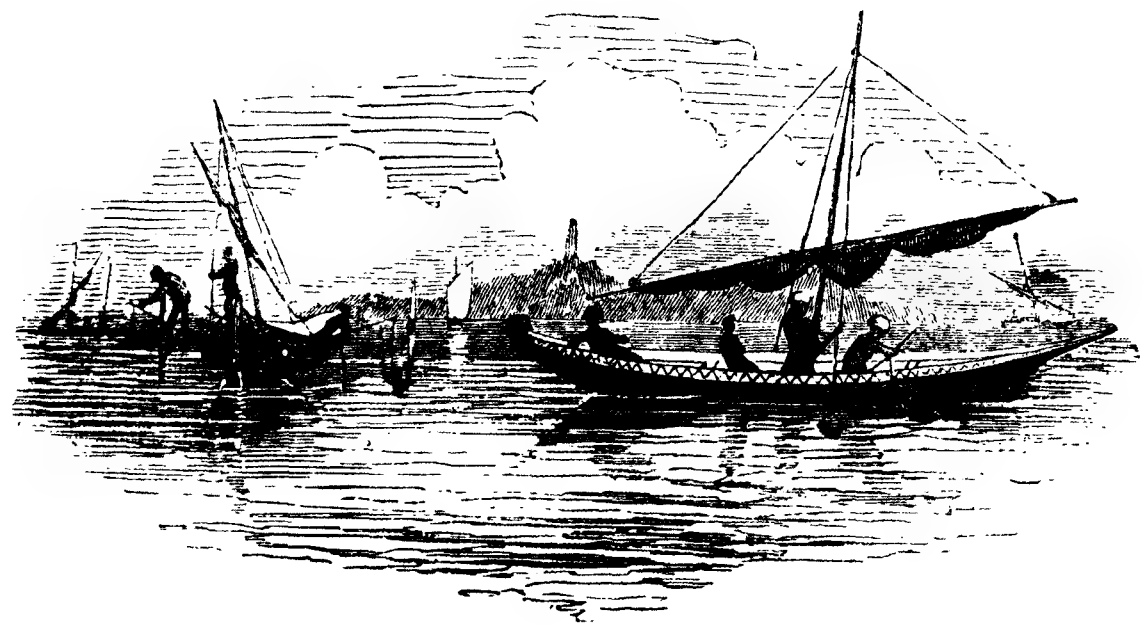
with a number of arches. In the centre of the rock, which is about thirty feet above the sea, the water has forced three passages vertically upwards, which are worn as smooth and cylindrical as if they had been bored. When a sea rolls in, it fills instantly the caverns under the rock; and, rushing up these chimneys, flies roaring up into the air to the height of sixty feet or more. The moment the wave recedes, the wind rushes into the vacuum beneath with a loud humming noise, which may be heard at a considerable distance; from which circumstance it derives its name, "The Souffleur, or Blower," as represented in the sketch.

Continuing our voyage through the Indian Ocean, at length Adam's Peak, at Columbo, in the island of Ceylon, met our view. This peak, or mountain, is about 6800 feet above the level of the sea. The appearance of sun-rise from the top is beautiful beyond description.

Ceylon is famed for its pearl fishery. This fishery is commenced either in the month of March or April; when as many as 250 boats are engaged in it. The pearls are found in an oyster very similar to our own, except that they are rather more oval, and much larger. They are found in beds of from two to ten miles in length, and from

one to two miles broad, at a depth of from three to fifteen fathoms water. The principal fishery is in the Gulf of Maraar, on the north-west coast of the island. One oyster will contain at times several pearls, sometimes nearly 100.

The oysters are obtained by men called divers, who commence their operations between seven and eight o'clock in the morning, and continue about six hours; two divers are appointed to each diving rope, who relieve each other alternately. An expert diver will descend to the bottom, and, in the short space of one minute, if the oysters lay



thick, will collect about 150 in his basket. The diver then makes a signal, by pulling the rope to which the

basket is attached; and it is immediately pulled to the surface by those in the boat, he himself coming up "hand over hand" by the diving-rope; reaching the surface generally before the basket, where he swims about till his turn comes round to dive again. The annexed sketch is a representation of the scene.

When the boats return to land, the oysters are laid up in heaps in the sun on the sea-shore, and strictly guarded. After some days, when they are quite decomposed, the oysters and shells are separated and washed; and, the pearls being all collected and sifted through sieves of various sizes, are then bored and strung, when they are taken to market and disposed of.

From Ceylon we now steered towards Madras. It was on a beautiful morning when, with a fine breeze, our noble ship was pursuing her way proudly across the Bay of Bengal.

The sun had risen in all its eastern splendour, and around us a shoal of dolphins were playing and leaping into the air, their burnished scales beaming and sparkling in the bright sunshine like brilliant gems.

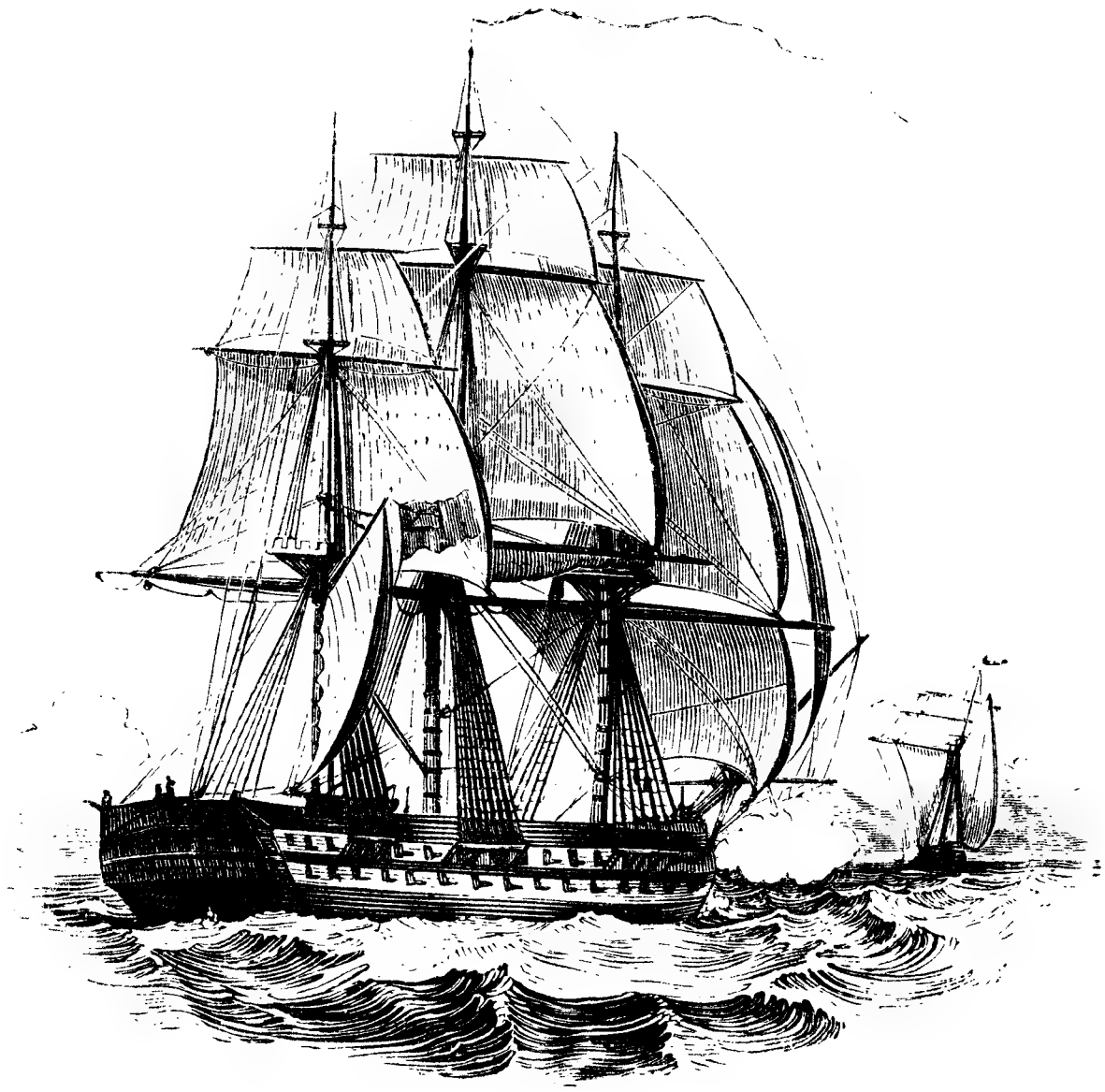
The dolphin is about six or eight feet in length, but is not much esteemed as an article of food.

Many of the crew had prepared baits to attract them, whilst others stood with harpoons and spears, ready to strike the unwary fish as he approached the treacherous bait.

Not a cloud had been visible during the morning, and the ship was sailing easily under studding-sails; as were also the Olympus, and the sloop-of-war.

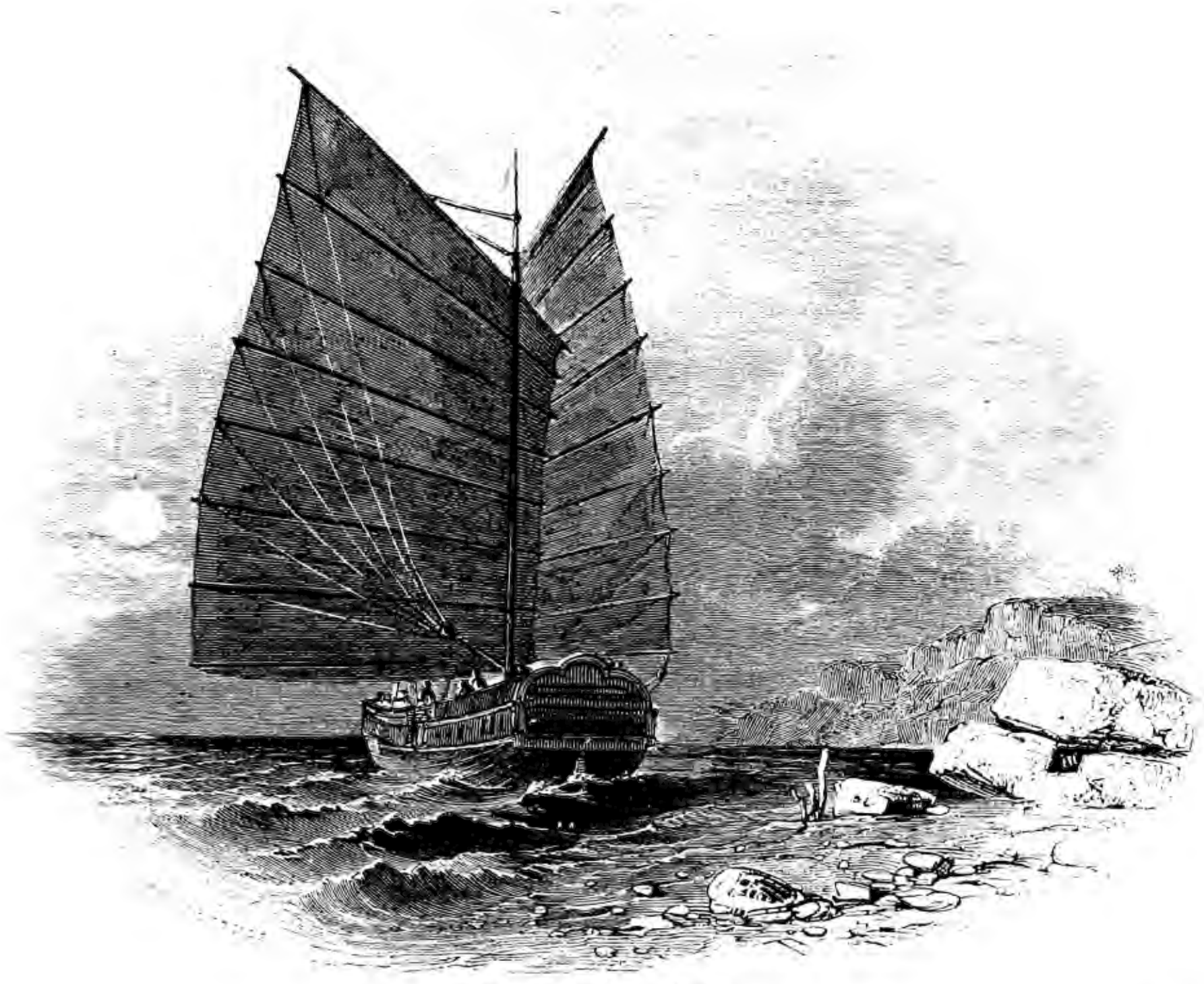
For some time most of the crew were busily engaged either in catching, or watching the beautiful changing hues of the dying dolphin; when suddenly the shrill sound of the boatswain's whistle rang along the decks, and "hands aloft—take in studding sails," was shouted by the officer of the watch.

Before the order could be obeyed, a most tremendous squall took the ship, laying her down completely on her beam ends, and lashing the surface of the water into sheets of foam as white as milk. All was instant confusion, several men were washed off the deck, and many had narrow escapes. The helm was borne up "hard-a-weather," but the ship's head would not "pay off." To "right her," we were at once obliged to cut away the mizen-mast, which fortunately answered the purpose; and, as the squall passed away almost as suddenly as it



OLYMPUS IN CHASE OF A SCHOONER.

p 292.



CHINESE SALT BOAT.

p. 293

arose, we were able to lie-to shortly after and repair damages.

Not so fortunate, however, was the case of the Olympus; for the squall caught her as unprepared as ourselves, and they lost both their main and mizen masts before they could get her upon her legs again.

The Zephyr happily escaped with but slight damage to her upper rigging. Having rigged up jury-masts on board our ship, and also in the Olympus, we once more bore up on our course towards Madras, where we could have our damages thoroughly repaired.

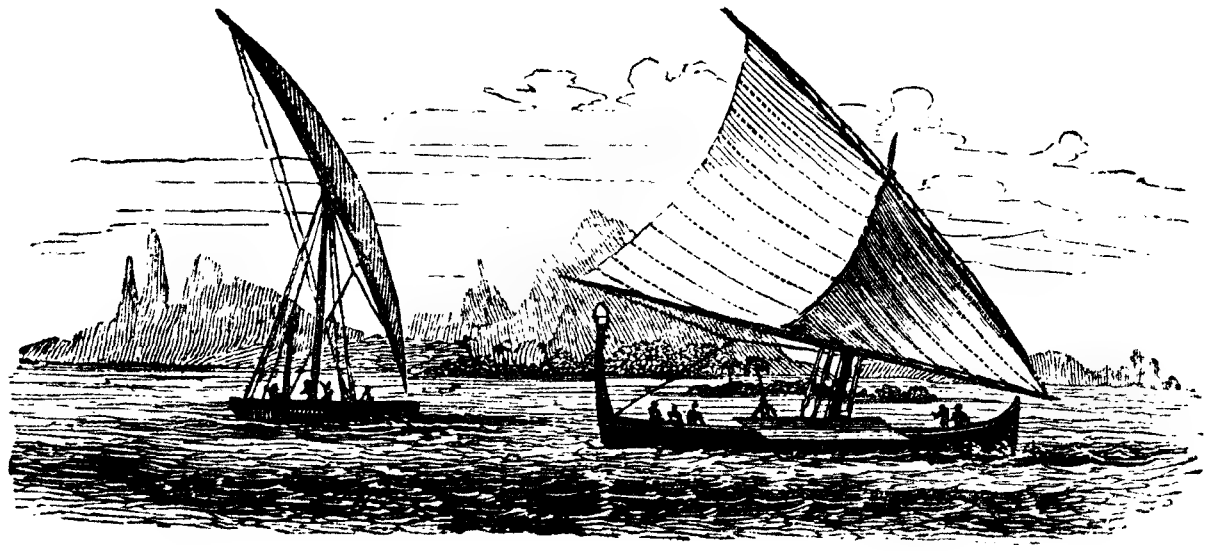
A few days after these occurrences we arrived at Madras. Madras is one of the principal towns, or British residences, in Hindostan, on the Coromandel coast. On this coast, for about two miles out, is such a tremendous surf, that no European boats ever venture to land through it. Ships coming to Madras always lie off (outside the range of the surf); and the passengers and crews are taken off and brought on shore in native boats, called Massulah-boats.

From Madras our little squadron proceeded into the China seas. Here we fell in with some Chinese junks; very remarkable vessels, both as to build and rig. They

are of very light materials, but, from their buoyancy, run very fast before the wind, and are rarely lost. They are of all sizes, up to 700 or 800 tons burthen.

While cruising in the North Pacific Ocean, we frequently fell in with the Indian Proas. These boats more particularly belong to the Marian, or Ladrone, Islands; so called by the Spaniards, from the thievish character of the natives—the word "ladrone" meaning "robber."

The Indian Proa is built head and stern alike; so that, by simply shifting the sail, they sail backwards or forwards, without "going about" (turning round).



CHAPTER XXIII.

The Prince of Wales returns to England—Madeira—Eddystone lighthouse—Plymouth Sound—Breakwater—Section of stone vessel—Dockyard—Hamoaze—Victualling yard—The guard ship—Sold out of the service to be broken up—her end.

I HAVE now taken you through some of the scenes of my not uneventful life on the ocean, and I draw near our parting: this, therefore, is what I term a melancholy chapter, for I have to speak of the end of the good old ship; but I must not leave her in the China Seas; for, in so doing, I should not fulfil the promise contained in the title of this work; which was to be, "The History of a Ship, from her Cradle to her Grave."

I must, therefore, bring the Prince of Wales home to dear Old England again, and tell you what became of her afterwards.

Although I have only described to you some eight or ten years of her existence, in which I had the opportunity of

noting the facts contained in these pages; it is necessary for me to inform you, that she had been to sea many times before; and though not a new ship at the time I first sailed in her, was not an old one, and, therefore, capable of rendering service to her country for many years to come.

In bringing the Prince of Wales home, I shall not make any remarks on those places at which we touched in coming to the East Indies; you will, therefore, suppose her to have repassed the Cape of Good Hope, got through the South Atlantic Ocean, and reached the island of Madeira on the north-west coast of Africa, on her homeward bound voyage. This island is constantly visited by ships, although they do not always anchor here.

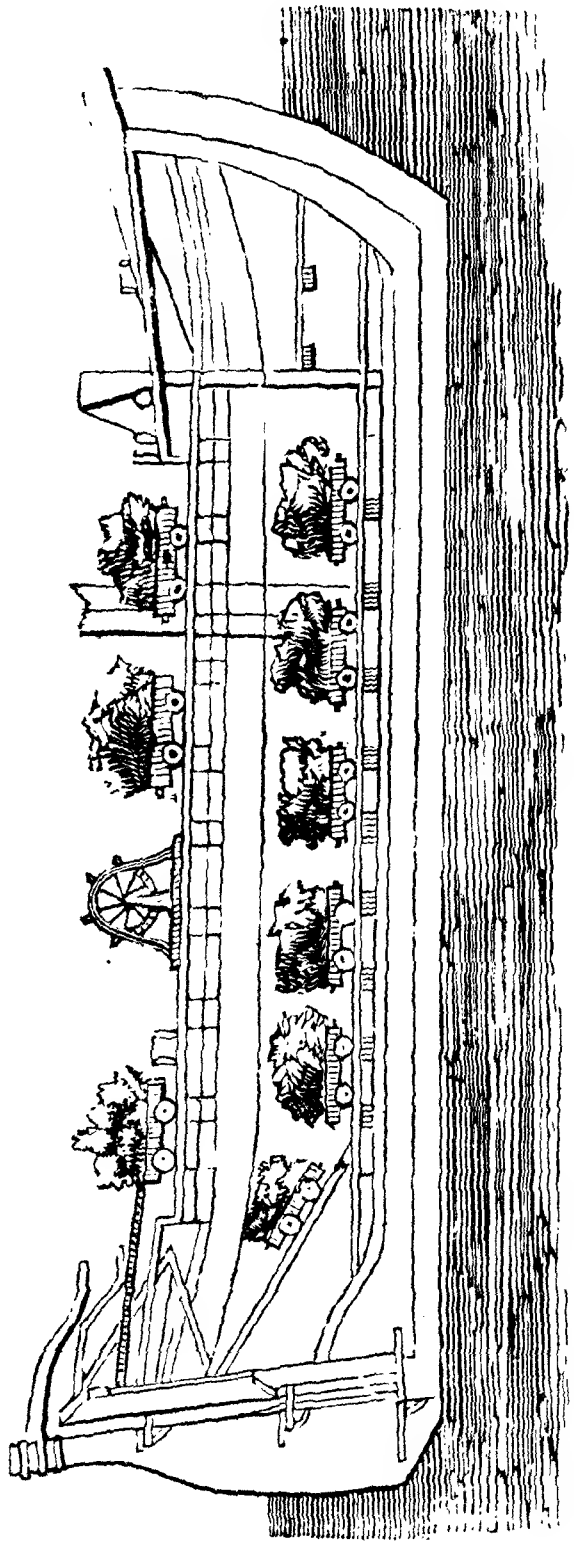
Madeira is a beautiful and fertile island, and its climate is so regular, that, for twenty years, it was found to vary only from about sixty-four to seventy-six degrees; and it is, in consequence, much resorted to by invalids. The capital town is called Funchal, of which the annexed drawing is a view.

Having weighed, and set sail from Madeira, we proceeded on our course towards England, and in due time got into the English Channel. Every man in the ship was rejoiced at the cry of "Land." And, when the Eddy-

stone Lighthouse (built on a rock at the entrance of the harbour of Plymouth) was in sight, there was scarcely a man that did not come up on deck, to have a view of it.

The harbour of Plymouth, called Plymouth Sound, is now a very secure one. Its security is derived from a breakwater, or artificial mole, constructed across the middle of the Sound, or bay. This breakwater is about a mile in length, and, on the top, is forty-five feet wide, but the base extends to a width of 500 feet. It is constructed of loose blocks of stone, thrown at first promiscuously into the sea, along the whole length of the work—averaging about five fathoms in depth, at low water. When raised above this level (low water), the surface is finished with squared blocks of stone, fitting close, and producing an even surface for walking on. Upon it, at the centre, is a flag-staff, and along its inner, or land face, are several landing-places, with steps.

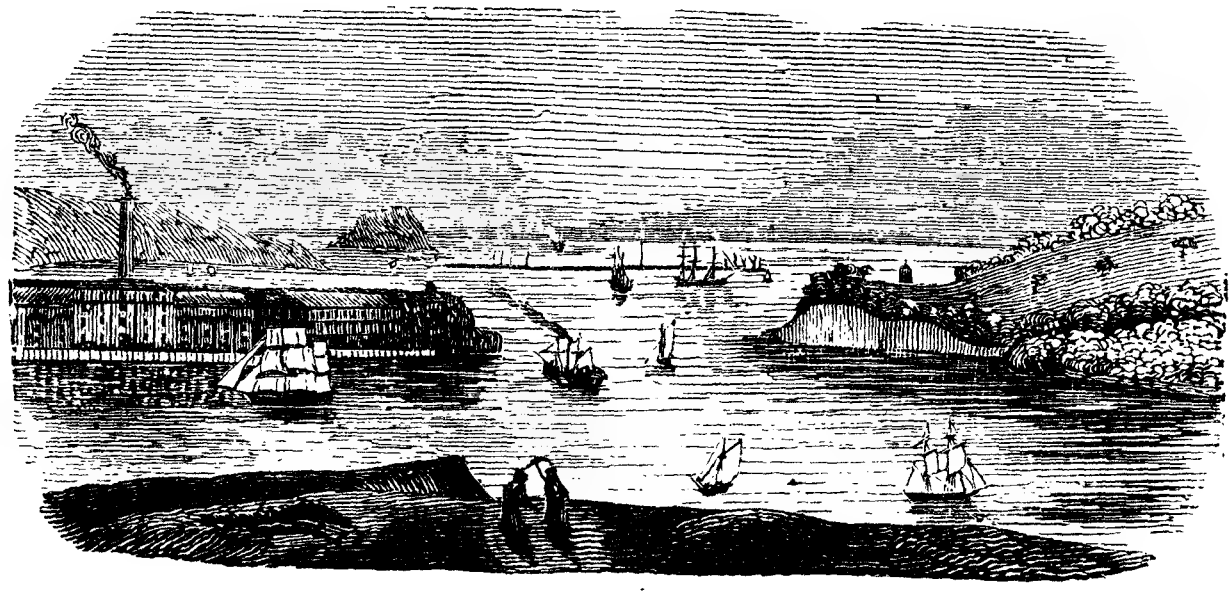
To carry out the immense blocks of stone (from eight to ten tons weight) used in the construction of this great work, a particular kind of vessel was built, with railways along her deck, and at the bottom of the hold. Their sterns were made to open with large ports, or doors, so that a truck might be drawn in, with the stone upon it, by



the machinery on deck. When the vessels arrived at the spot for depositing their cargoes, the trucks were drawn back in succession to the port-hole at the stern, and the stone tilted off into the water, to find its own bed. The longitudinal section of the stone-vessel, will show the arrangement of the loaded trucks on board.

In the view of Plymouth Sound, the situation of the Breakwater is denoted by a line drawn across the middle of the bay. At Plymouth there is a large dock-yard; and the arm of the sea facing it, which extends several miles inland, is called the Hamoaze, where the ships, in ordinary, lie until required for service

The range of large buildings on the left, in the above sketch, is the Victualling Yard; where biscuit, salt provisions, water-tanks, men's clothing, and other stores for



victualling the navy are obtained. The arm of the sea, on the right, leads to the Dock-yard and the Hamoaze; and that on the left, to Plymouth and the Catwater, where merchant-ships anchor.

And now, my young readers, I must tell you, that events similar to those contained in the foregoing pages, occurred in all the subsequent voyages of the Prince of Wales; that is, she was refitted—re-commissioned—dispatched to cruise on different stations—met with storms and calms—fell in

with the enemies of her country—fought and conquered—and returned to England.

But time and ill usage (for she had many hard knocks, when attacking, and defending herself against her enemies) was beginning to tell upon her constitution: every succeeding refit became more expensive, inasmuch as there was more to be done—more old splintered and worn out planks to be removed, and new ones substituted; till it at length became rather doubtful to say, whether the good old ship had one piece of timber remaining, that belonged to her when she was launched. If she possessed any, there were but few who could point them out; for she had had a long life, and outlived most of those who had both ordered her to be built, and were engaged in her construction.

At one time she was lying up in ordinary in Chatham River (where there is also a dock-yard), and then her case was under consideration at the Admiralty, as to whether she should be again repaired, and fitted for sea, or sold, to be broken up. I cannot deny to you, my young readers, that I felt sorely grieved on gaining this intelligence; for she was an old friend of mine, and I had the honour of commanding her, too, in one of her later voyages. I tried

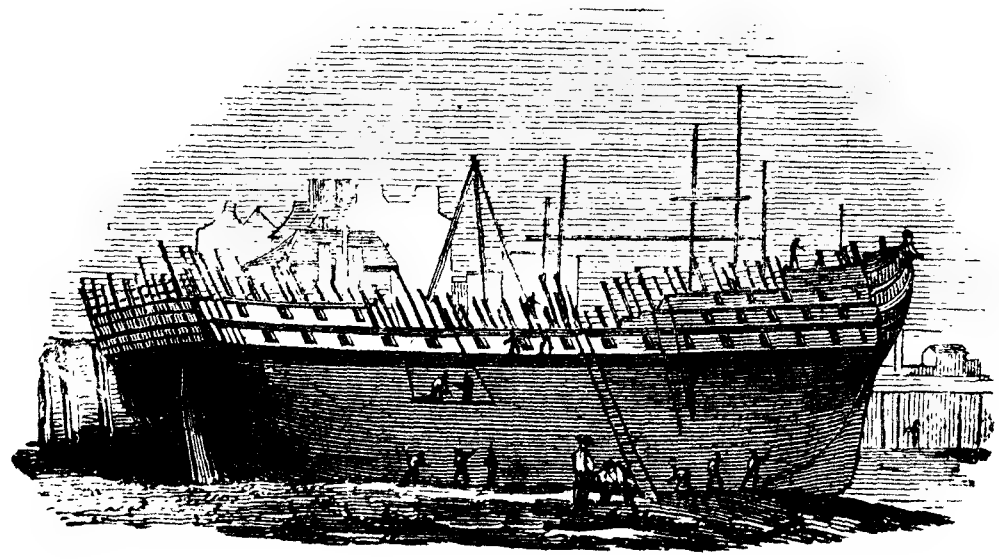
hard to get a little respite for my old favourite. However, her fate was not decided at this time: it was represented that, though not in a fit state for active service, she might do very well, for three or four years, as guard-ship; and as "Guardo" she was consequently fitted, and moved down to Portsmouth.

The four years expired, the consideration of her case again came on, and her fate being decided, she was sold out of the service to be broken up.

A kind of pang shot through my heart, when I heard of it; and I could not resist the inclination to go and see her once more, before she was entirely demolished. I, therefore, set off for Portsmouth, and, arriving at the ship-broker's yard, I found her hauled up on dry ground, with scaffolding poles and ladders ranged round her sides, while in heaps about the yard lay the planks and ribs that had already been stripped off.

It was a grievous sight to me, and yet I could not refrain from looking at her, whilst plank after plank was removed. At length I could bear it no longer—I could not stay to witness the destruction of my old acquaintance; and, in turning to leave the spot, I uttered, "Farewell! Prince of Wales! Farewell! thou good old ship!"

Thus, my young readers, closed the existence and the successes of this noble ship; for, in a short time, nothing but her skeleton remained, which, in due time, was consigned to its



GRAVE

A SHORT ACCOUNT

OF

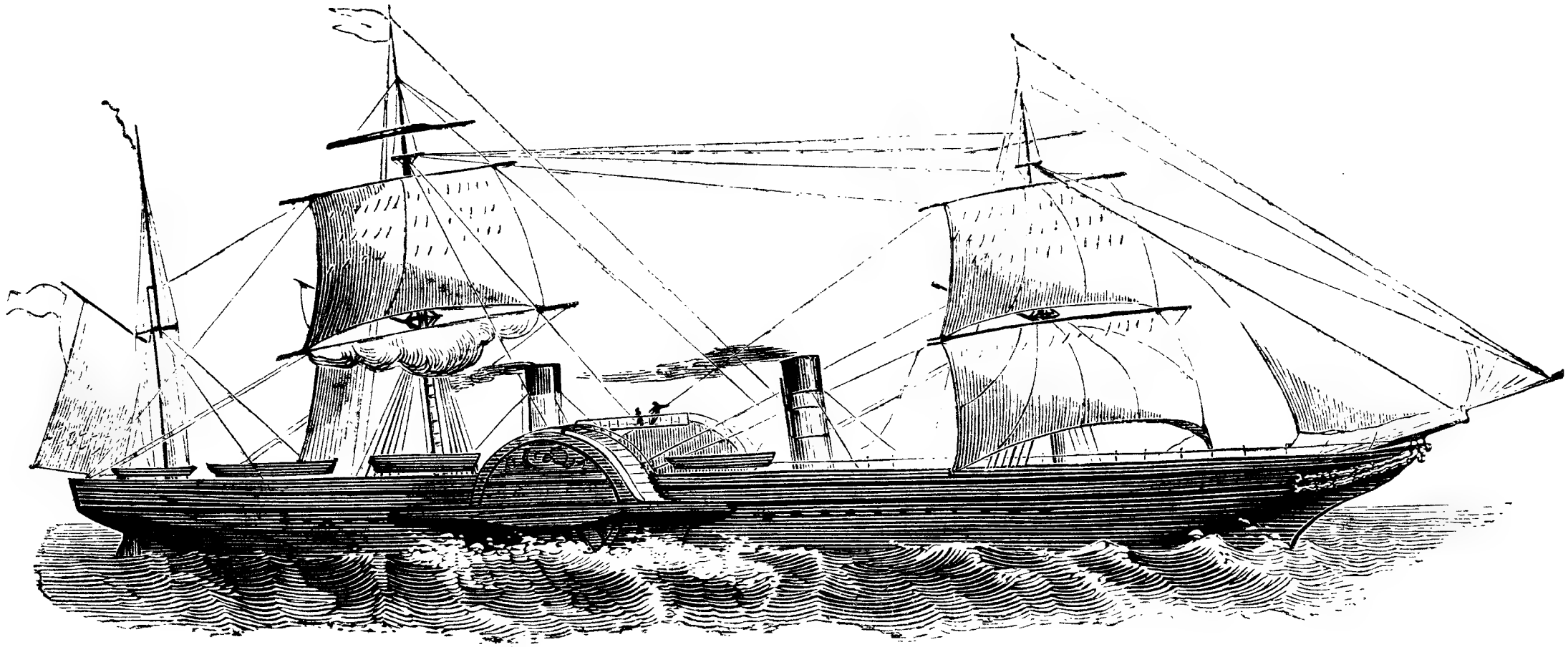
STEAM SHIPS,

AND OF THEIR INTRODUCTION INTO THE

MERCANTILE MARINE

AND THE

Royal Navy.



MERCHANT STEAMSHIP (PADDLE WHEEL).

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CHAPTER XXIV.

Papa promises information about the steam-engine—James Watt's invention—Application of steam to Ships—The Marquis de Jouffrey—Rumsey and Fitch—The Charlotte Dundas—The Comet—The Steam-tug—Paddle-wheels—The Screw-propeller—Captain Ericsson's Invention—Progress—The Great Britain.

AS grandpa has given you such a long account of the sailing ships of his day, I should think you would be glad to learn something of the steam-ships which now traverse the ocean in every direction, and are so numerous in all navigable rivers; and therefore if you will be very good I will try to tell you about them.

As you may suppose, it has been the work of many minds and many years to bring marine engines to their present almost perfect state, and to prove this I have only to tell you that the first written account of a machine in which heat is made to perform work by means of steam, states that such a machine was made by Hero of Alexandria, who lived 150 years before the birth of our Saviour, or more than 2000 years ago.

After this time not much is recorded of the steam-engine, but from the year 1600 we have from time to time accounts of steam-engines until 1663, when the Marquis of Worcester described a machine for raising water by means of steam, which he had constructed some years previously. In 1697 Savory constructed an engine in which a separate boiler was the special improvement. Then came Denis Papin, who invented the cylinder and piston. Afterwards we have several other scientific inventors, until we come to the time of James Watt, who for a number of years carried on a series of experiments, making one improvement after another, solving first this difficulty and then that, until he produced a working engine; the principle of which was adopted by all other makers, with such alterations and improvements as were suited to the locality of the engine and the work it had to perform.

The following condensed history of the application of steam to the propulsion of ships is given that you may form some idea of the industry, ability, and perseverance of the men who have brought about the result we now see. In 1698 Denis Papin was present at the trial of a boat propelled by a machine contrived by Savory (one of the inventors before alluded to), in which paddle-wheels were driven by a water-

wheel, which water-wheel was driven by water raised by means of the steam-engine. In 1736 a steam-vessel was invented by Jonathan Hulls, in which paddle-wheels were driven by ratchet-work, that is, a series of toothed wheels, acted upon by chains or ropes attached to the piston of a steam-engine.

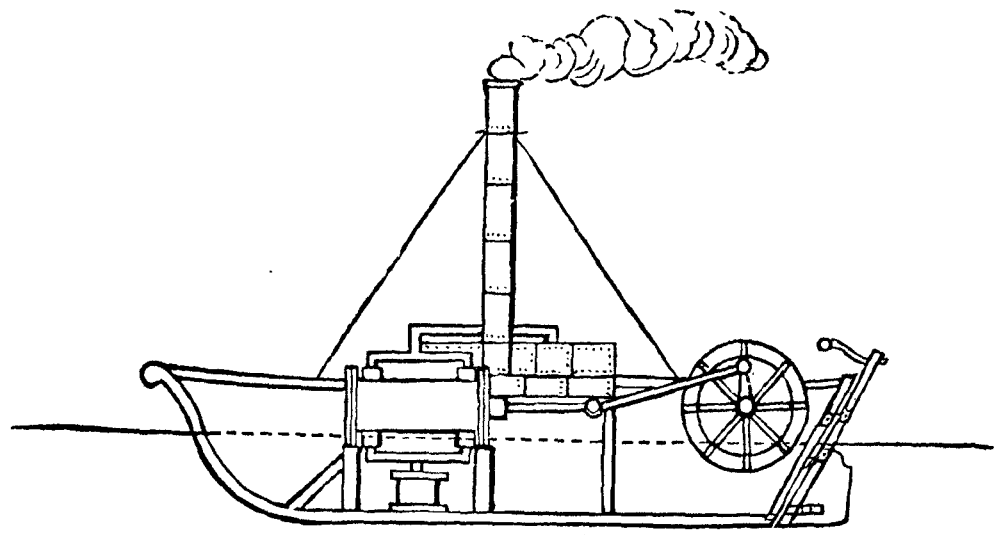
In 1781 the Marquis de Jouffrey had a steam-vessel upon the Rhone, in which the paddle-wheels were driven by chains, connected with the engine; and in 1785 he constructed another in which the paddle-wheels were driven by rack-work.

In 1784 Rumsey and Fitch constructed a steam-vessel in America, and in 1788–9 Miller of Dalswinton; but all these failed chiefly because of the imperfect means of communicating the power of the engine to the propeller.

By the inventions of James Watt, however, the transmission of power smoothly and without shock or jar was effected, and thus paved the way to success in steam navigation, and "the first practicable steam-boat," the Charlotte Dundas, was built in 1801, and successfully employed as a tug-boat on the Forth and Clyde canal.

After this Fulton began his experiments in America, and in 1807 his vessel, the Clermont, was propelled by paddles

driven by an engine made by Boulton and Watt in England; but in 1804 Stevens ran a steamer between New



THE CHARLOTTE DUNDAS.

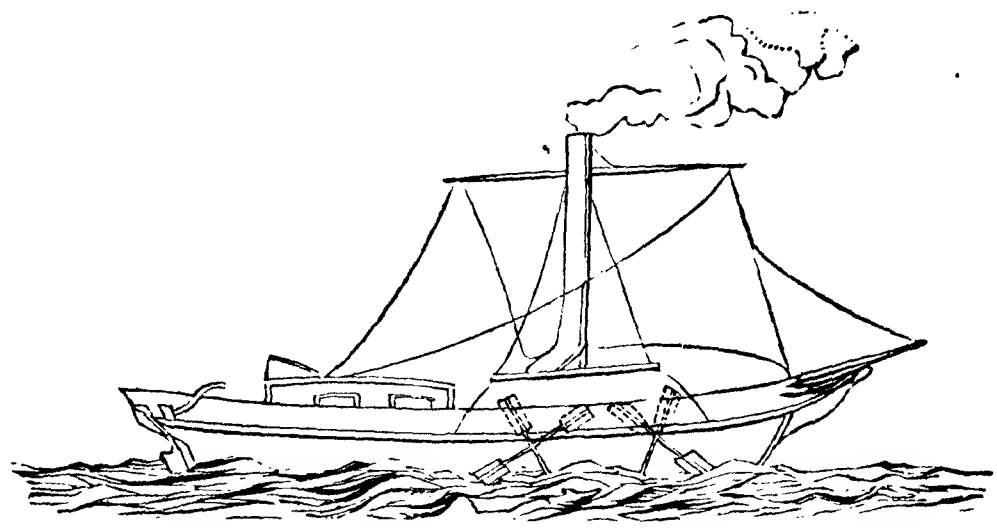
York and Hoboken with a "screw propeller" driven by one of Watt's engines.

In 1812 Bell of Glasgow had the Comet steamer on the Clyde; she was propelled by two pairs of paddles, also driven by one of Boulton and Watt's engines.

From these small beginnings have arisen the splendid steam-ships which are now in use on every ocean and navigable river almost throughout the world.

As has been shown, the first steam-vessels were intended to navigate canals and narrow and intricate rivers, where an ordinary sailing-vessel could not, without extreme labour

and difficulty, make a passage, because she could not exert the full power of her sails; and the only other method of progression was that of towing by horses on canals or by boats on rivers—which was rendered very tedious work, when, as is frequently the case in rivers, a very strong current has to be overcome. The steam-vessel at once removed this obstacle to commerce; and after some experience it was found that she could not only force her own



THE COMET.

way up a river, where a strong current opposed her, but that she could drag after her one or two trading-vessels, as large as herself, even against wind and tide.

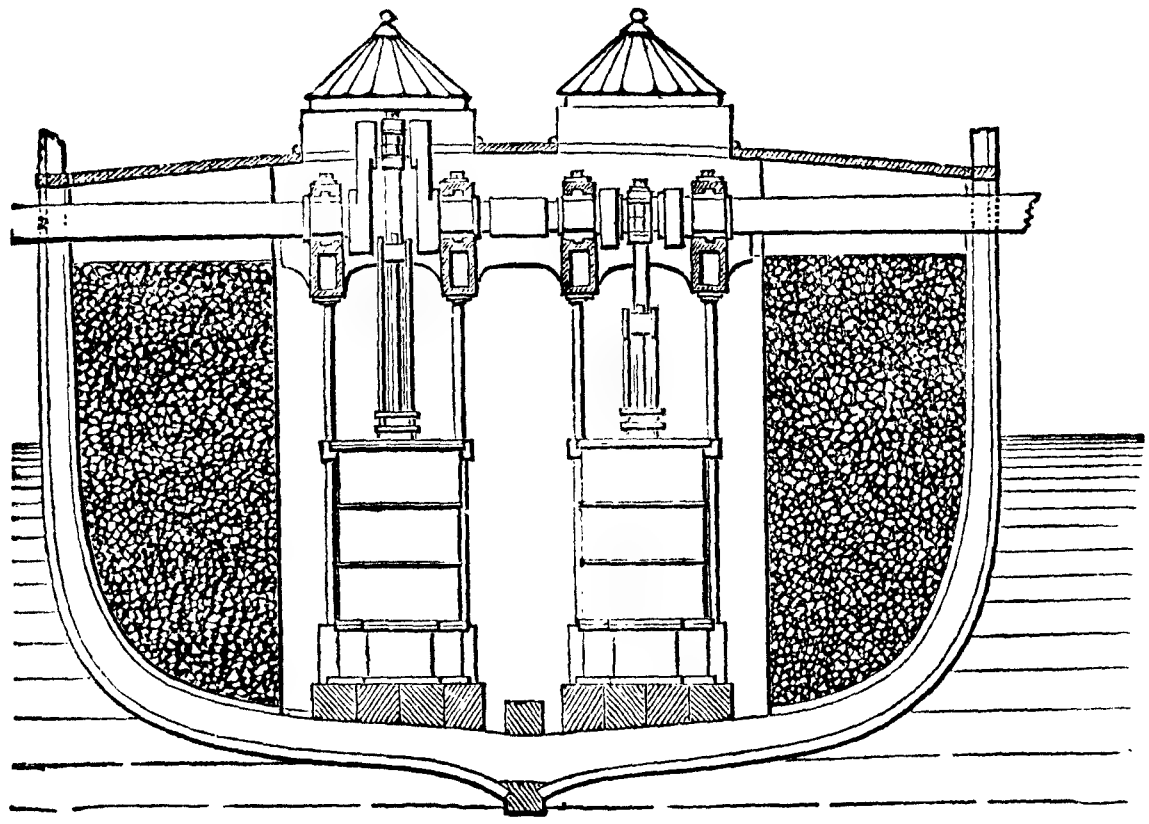
This fact caused the introduction of the steam-tug; which is strongly built, and fitted with an engine of suffi-

cient power for the work of towing large vessels up and down narrow rivers, where a difficulty of using sails exists. The tug sometimes goes ahead of the vessel, and at others is lashed alongside, according to circumstances.

It was the opinion of many eminent men that it would be impossible to run steamers on long sea-voyages with safety and profit, not only on account of the cost, but of the quantity of coals to be carried, which they supposed would occupy the space of the vessel, leaving no room for cargo, but this opinion was shown to be wrong, for in 1838 the Great Western steamer crossed the Atlantic safely and speedily, and since then ocean-going steamers have become very numerous, and the passages to and from distant countries are not only effected with speed and safety, but with so much certainty, that the time of their arrival at their destination can be calculated to a day. This is especially so as regards the splendid mail steamers: they are sound, staunch vessels, well found in every particular, and well manned—that is, with a sufficient number of engineers, stokers, and sailors, and commanded by high-class men.

It is not necessary to give an elaborate description of the steam-engine; it will be sufficient for my readers to

know that it is a machine to which motion is given by heating water contained in large boilers placed over a very strong fire, until driven off in vapour, or steam. The steam is made to pass through a tube into a cer-



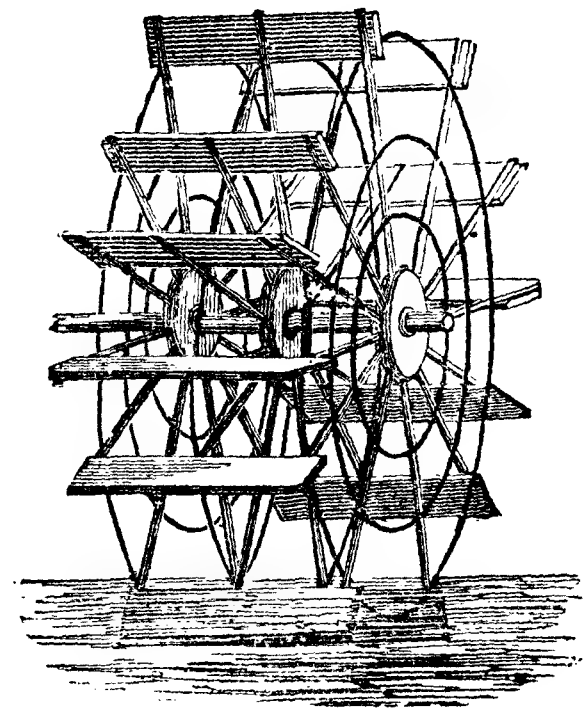
SECTION OF A MARINE ENGINE.

tain part of the machine called a cylinder, where, in its endeavours to escape, it gives motion to a piston; and the constant supply of steam from the boilers keeps up the motion thus obtained. Steam-engines are of various sizes, from one to 1500-horse power; that is, they are capa-

ble of exerting continously an amount of power equal to the strength that number of horses would be calculated to possess in action. But this mode of speaking of the power of an engine by no means gives an idea of its vast strength and force, as it is not uncommon to find one working up to a power equal to quite four times its nominal ability.

The active strength thus obtained has to be brought into useful contact with the water; and many have been the contrivances how to do this in such a way that the most speed should be obtained by the exercise of any given amount of force in the engine; and in the early history of steam navigation, trials were made of an apparatus that should act like a bird's webbed foot, expanding on striking the water, and contracting as it was drawn back after its force was expended. Another scheme was, to draw water in at the bows and force it out at the stern, or at both sides. The fans of a windmill suggested to another inventor a possible success by applying something similar to act under water; yet, although so near to what is now known as the screw-popeller, this idea shared the fate of the other two, and was forgotten in the success of the paddle-wheels.

These, which for many years after the introduction of steam navigation were the indispensable appendages of a vessel propelled by steam, are two large wheels, around which are fixed a number of flat boards on edge, as shown in the drawing; which, as the wheel is moved round by the action of the engine, act on the same principle as paddles or oars used in propelling a boat; that is, they push against the water during the time they are in it; and, speaking generally, the more quickly the wheels revolve, the greater is the speed of the vessel.

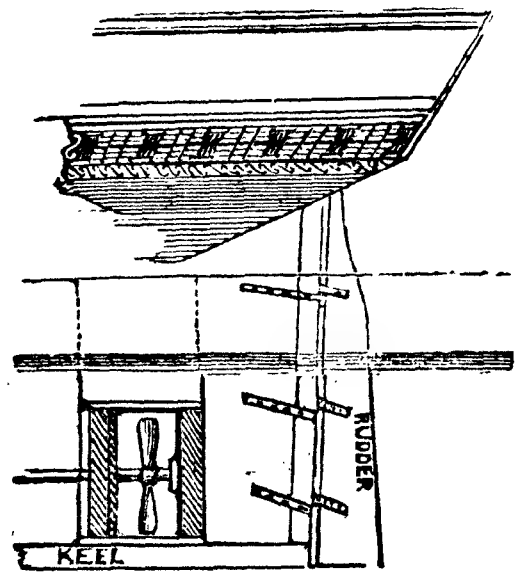


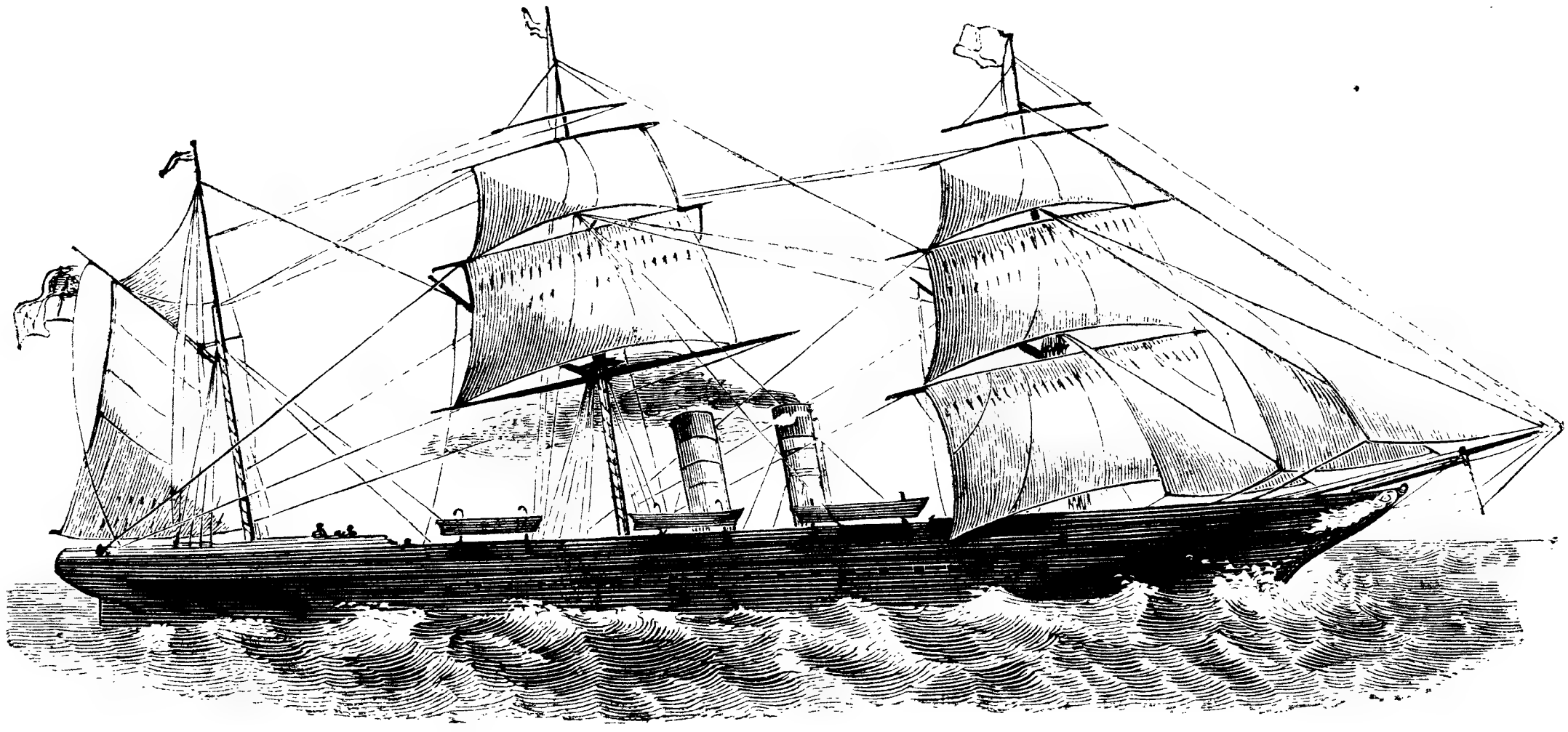
In one of the earliest attempts to propel a vessel by steam, the paddle-wheel was hung over the stern, upon and between two projecting poles; and although the difficulties attendant on such an arrangement were soon found so great that succeeding experimentalists removed their engine to the centre, and placed a wheel on each side, there was in this early trial a sort of foreshadowing of the

success which should attend propulsion at the stern by the screw.

Paddle-wheels were well suited to river navigation, where the wheel could constantly dip its given distance into the water; but it is evident that at sea, in heavy weather, when the ship was rolling, one wheel would be buried in the water, and that on the opposite side whirling in the air; so that one would be overworked, the other doing nothing, and considerable strain and risk caused to the engine.

In vessels of war, steam, as a motive power, was obviously invaluable, enabling any necessary manœuvre to be executed with nicety; but so long as paddle-wheels were the agents, it was impossible fully to adopt it; huge objects, exposed to every shot, they would but take their owner into action to place him helplessly at the mercy of his first opponent. Against this the screw provides: snug down in what the seaman calls the dead wood, it works noiselessly, out of sight, and out of reach



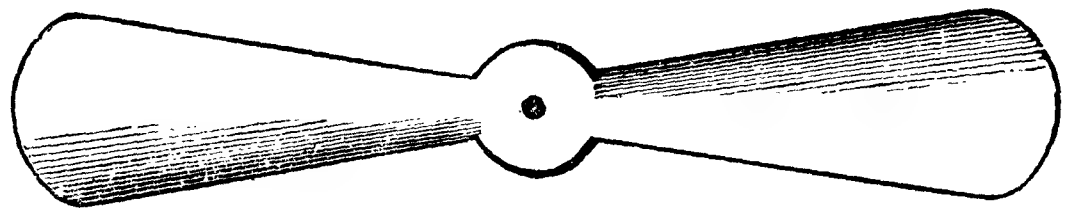


MAIL STEAMSHIP (SCREW).

p. 314.

of damage by shot, and leaves the entire deck free for working the guns and the active duties of the sailor. The greatest danger it is subject to is fouling by seaweeds, ropes, and wreck; but, doubtless, even at some slight sacrifice of speed, if necessary, this will be, by-and-by, generally guarded against.

It is difficult to give a sketch that will convey a correct idea of the screw in general use; but you will obtain it if you will cut out a piece of card exactly this shape, stick

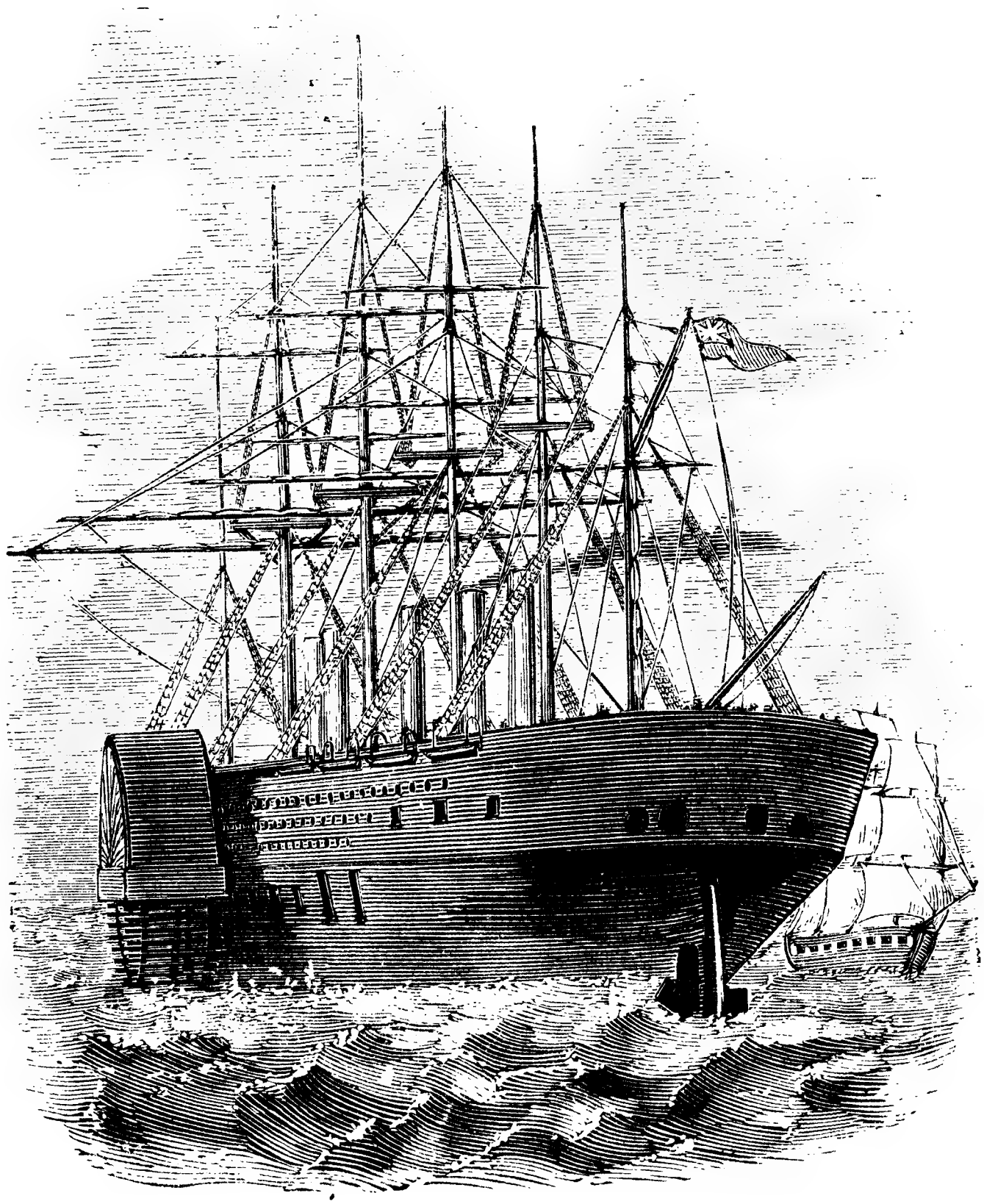


the round piece against the flat end of a pencil, then twist the two blades (both in the same direction) just so much that, as you look at them sideways, they show not more than half their real width. The pencil now represents the shaft which runs along in a line with the keel, but above it; and as it is turned round you will see the screw-propeller in full action.

As is usually the fate of inventors in this country, the screw was not readily adopted even when its importance

had been proved. It is generally understood that a practical mechanic named Shorter succeeded in propelling a vessel by a screw in 1802, but at that time no power was available for driving it with proper effect. When Watt's steam-engine was introduced the paddle-wheel was adopted, and its success seems to have put the screw out of mind for a time; but Captain Ericsson and Mr. F. P. Smith brought out their experimental vessels in 1837, and on the 25th of May in that year, the former gentleman's small boat, 45 feet in length and 8 feet beam, drawing only 2 feet 3 inches of water, towed the American ship Toronto, of 630 tons burden, in the Thames against tide at a speed of $4\frac{1}{2}$ knots per hour.

Captain Ericsson informed the Lords of the Admiralty of the success of his experiment, and pointed out the many advantages of the screw-propeller for vessels of war, but after repeated applications and long suspense, he was informed that their Lordships declined to entertain the project. The screw, however, forced its way into public estimation, and in 1840 the Lords of the Admiralty ordered the Rattler to be built, and her success was so undoubted, notwithstanding an error in the construction of her hull, that other ships were ordered, and the screw



GREAT EASTERN.

p. 317.

became established as the best propeller for all ocean steamers, as well mercantile as for those of the Royal Navy.

I wish you to contrast with the diagrams of the Comet and the Charlotte Dundas, on pages 308 and 309, the drawing and description of the Great Eastern steamship, the largest ship afloat; she is 692 feet long, and, including the paddle-boxes and their fenders, 118 feet broad, equalling the width of Portland Place, one of the broadest streets in London or in England; the depth of the hull is 60 feet, the launching weight nearly 12,000 tons, and the weight of the whole ship, when laden with every contemplated article and person on board, not less than 25,000 tons, with which weight she will draw about 30 feet of water.

That portion of the hull below the water-line, and for a few feet above it, is made double or cellular, the internal plating serving the twofold purpose of giving direct strength to the ship and protection in the event of the outer plates being damaged: the space between these plates is about 34 inches, and in it are placed, in a longitudinal direction, rows of plates, the intervals being regulated by the strain which each portion will have to sustain; the bottom of the ship having a greater number of these girder frames than the sides.

*

The cellular system is applied to the upper deck also, and thus the ship becomes a monster iron girder, on the principle of the tubular bridges on the Holyhead Railway, capable of spanning with safety from ridge to ridge of the ocean's waves. There are 35 ribs or webs, running longitudinally from stem to stern, in the space between the inner and outer shells. There is no external keel, and the bottom is quite flat for about half the breadth. The number of plates is said to be about 10,000, and the number of rivets about 3,000,000.

The interior of the ship is divided by iron water-tight bulkheads into compartments, extending the entire height to the upper deck, with no openings below the lower deck, except in the coal bunkers, and here water-tight doors, which can be closed at a short notice, are fitted. The advantage of this arrangement will be at once seen when it is remembered that, should any accident occur by which one of these divisions should be filled with water to the level of the lower deck, it would not endanger the ship, since it could not penetrate any of the others.

The arrangements are intended for 800 first-class passengers, 2000 second-class, and 1200 third-class; the crew and engineers, numbering 400, are accommodated near the two ends of the vessel.

The upper deck is flush fore and aft, and presents a promenade nearly an eighth of a mile in length: so there is no want of space for exercise. The means of propulsion are the combination of paddle, screw, and sails; the paddle-wheels are fifty-six feet in diameter with float-boards about 13 feet long; they are driven by engines with 4 cylinders, the largest ever made on the oscillating principle, having each a diameter of 74 inches, and 14 feet stroke.

The screw-propeller is 24 feet in diameter, with 4 fans or vanes, and a shaft of 160 feet long, and is driven by 4 cylinders, 84 inches in diameter, with 4 feet stroke Each of these cylinders required 34 tons of metal in the casting.

There are 10 boilers, and 100 furnaces. Should a brisk wind in the right direction spring up, her six masts (five of iron, and one of wood) carry 6,500 square yards of canvas.

There are also auxiliary steam-engines, to aid the crew in hoisting sail, heaving anchor, pumping, etc.

She carries 10 anchors, 800 fathoms of chain cable, and (to communicate orders to various parts of the ship) an electric telegraph. To leave no precautions for safety

unprovided for, there are boats enough to contain all the passengers and crew, including two screw-steamers, 90 feet long, hung on davits abaft the paddle-boxes.

Although the intention of Mr. Brunel, who designed and superintended the building of this monster ship, was that she should be employed in carrying passengers and goods, her greatest successes have been achieved in laying electric telegraph cables, by which to communicate with distant countries; indeed it would appear that they could not have been so easily and correctly laid without a ship possessing such extraordinary power and capacity.

CHAPTER XXV.

Improvements in the Royal Navy—The Victory—The Dreadnought—New Models—The Penelope—Duke of Wellington—Russian War—Massacre of Sinope—Iron armour plates—The Warrior—Black Prince—Bellerophon—The Captain—The Glatton—The Devastation—Contemplated Improvements—The Inflexible—British Sailors.

GRANDPA has told you so much about the Prince of Wales, which in his day was the kind of war-ship in the Royal Navy of England, that it does not seem necessary to say anything more about the old-fashioned line-of-battle ships, except that many larger ships than the one he served in were built, and that there were three-deckers, two-deckers, frigates, corvettes, and others of lower classes. The Victory, launched in 1765, and now lying at Portsmouth, is a fine specimen of the first-class line-of-battle ship of the latter half of the last century; she was armed with 104 afterwards with 110 guns, the largest of which were 32 pounders. The old Dreadnought, so long a hospital ship in the Thames off Greenwich, was another example well known to many of my readers.

For a long period all our fighting ships had been built on one model—the builders being restricted to a few feet additional length or breadth as their knowledge or taste dictated, but as larger guns came into use, it became evident that some improvement was necessary, and in the early part of the present century many suggestions were offered to the Admiralty, and much discussion took place as to the proper build of ships-of-war, and a keen competition was entered into by eminent ship-designers, who received permission from the Admiralty to try and improve the sailing qualities of the ships they were allowed to construct on the established models.

The effect of this permission was to stimulate all who were concerned in ship-building, and the introduction of steam power into ships-of-war led to many experiments being made. The Penelope 46 gun frigate was cut in two, lengthened about 65 feet, and fitted with paddle-wheel engines of 650 horse-power. Other paddle-wheel frigates followed, but it was soon proved that the paddle-wheels interfered with the broadside fire, and were liable to be damaged by shot in action, and as I have before stated, the screw-propeller was substituted for paddle-wheels in all future fighting-ships.

The Duke of Wellington, now the Admiral's flagship in Portsmouth harbour, is a specimen of the most powerful fighting-ship of that day; she carried 130 guns, the heaviest of which were 68 pounders, and was in all respects an improvement on the Victory. She is a wooden screw steamship, and was launched in 1852, and was able to steam ten and a half knots per hour.

In 1853 the war with Russia occurred, and what has been termed "The Massacre of Sinope," where a Turkish squadron, consisting of seven frigates, three corvettes, and two steamers, was destroyed by the Russian fleet on the 30th of November, 1853, only one steamer escaping. This proved that wooden ships were no match for the heavier guns in use, for even the Duke of Wellington, although much superior to the Victory in her powers of attack, had no better means of defence, for while the heaviest gun the Victory had to meet was a 32 pounder, the Duke of Wellington had to meet 68 pounders supplied with shells, which could easily pass through her sides and inflict irreparable injury.

If what I have stated be clear to you, it will be seen that it is of little use to increase the attacking power of a ship if the defensive power be not at least equally increased, for we may be sure that, however we may increase in effective-

ness, other nations will try to do the same. With this view many eminent naval architects and engineers set to work to devise means for rendering the sides of ships at least as impervious to the shot and shell that could be brought against them as those of former times were, and thus ensure our hardy tars as much protection as possible, while giving their courage and skill as full play in future naval warfare as they formerly had, instead of exposing them to a chance of total destruction before either could be made available.

Iron, as the substance least liable to penetration, naturally suggested itself, since it could not be injured by the explosion of shells against it, then arose the question, what thickness of iron would be necessary, and the Admiralty caused a series of experiments to be made, which showed that $4\frac{1}{2}$ inches of iron with a teak backing of 18 inches could not be penetrated by a 68 pounder—then the most powerful gun afloat—at a distance of 200 yards, and here the difficulties began; it was obvious that to cover the sides of a frigate or a line-of-battle ship with such a weight of iron would cause them to sink so deeply in the water as to spoil their sea-going qualities, bring their ports almost level with the water, and debar them from entering many of the harbours on our coast. Under

these circumstances it became necessary to build a ship specially with a view to her being able to carry armour-plating, and the frigate Warrior, after much consideration, was built, but it was deemed desirable only to cover her broadside with iron, leaving both ends unprotected, by which not only the whole of the bow but also the rudder-head and steering apparatus were as liable to be damaged as if there were no iron plating at all, and thus the ship was as much at the mercy of an opponent as before. In more recent ships these defects have been overcome, the whole sides, including the rudder-head and steering apparatus, being protected.

The Black Prince is a similar ship to the Warrior, and was completed in September, 1862; they were both very long, and with fine lines, to insure great speed, but their length made them unhandy; and the next ironclads, the Defence and the Resistance, were built shorter; their fighting and resisting power is similar to the Warrior's, but their speed does not exceed 12 knots per hour. In 1861 ten or eleven ironclads were ordered to be built. Of these, three, the Minotaur, the Northumberland, and the Agincourt, were similar; their iron armour was $5\frac{1}{2}$ inches thick, with 10 inches of teak, and they were armour-plated

the whole length of the side, thus giving protection to the rudder-head and steering-gear.

In the construction of the other ships building at this date, the same powers of resistance or attack were obtained as on those mentioned, so that at the end of 1861 there were fifteen ironclad ships in progress, all having the same defensive strength of side, impenetrable by a 68-pound shot at 200 yards; but other naval powers had been building armour-plated ships of the same defensive power as our own, and now the struggle commenced between guns and armour, for no sooner were our new ships built than guns that could be worked on shipboard were produced capable of piercing the side of any one of them at 500 yards, indeed some of the ships were armed with these guns.

The continued improvement in guns again made a change necessary in the construction of war-ships, and again consultations were held, plans submitted, each constructor advocating his own plan, and Mr. E. J. Reed's plan being adopted, some wooden ships were altered and armour-plated, carrying heavier guns than the Warrior, and being only 1000 tons burden, these were considered so successful that Mr. Reed was instructed to construct the Bellerophon: she was 80 feet shorter and two feet narrower than the

Warrior, built of iron protected in all important parts by $6\frac{1}{2}$ inches armour-plates, carried ten $12\frac{1}{2}$-ton guns, and could pierce the sides of the Warrior at 2000 yards distance.

The Hercules and the Sultan are on the same principle as the Bellerophon; they are protected at the water-line by 9 inch armour-plates. Both these ships are armoured with eight 18-ton guns, which could penetrate the sides of the Warrior at 4000 yards distance; they have, in addition, heavy guns protected by armour-plates mounted both at the stem and stern; so you see how much superior the Warrior and Black Prince were to the old Prince of Wales, and also how much superior, both in fighting and defensive power, the Bellerophon and ships of her class are to the Warrior.

Captain Cowper Coles had laid before the Admiralty his plan for mounting guns on turrets, and urged it with so much effect, that an order was given to convert the Royal Sovereign, a three-decker, into a turret-ship, and to build the Prince Albert of iron on the same principle, both protected with armour-plates; neither of these ships had sail power, and were intended for coast defence only; but Captain Coles advocated the turret principle as applicable

to sea-going ships, and a design submitted by him in 1862 to a committee of naval officers, though not approved in every respect, convinced them so far of the importance of the turret system that they recommended the Admiralty to design an experimental turret ship, and the Monarch was built: she was armour-plated, and armed with four 25-ton guns in two turrets, protected with 10 inch and 8 inch armour-plates in addition, for right-a-head fire: she carried two $6\frac{1}{2}$-ton guns under her top-gallant forecastle.

This ship, however, was not according to Captain Coles's design, and he objected that the principle he had so long and ably advocated was not fairly carried out.

The Admiralty therefore permitted him to design the Captain, and she was built by Messrs. Laird of Birkenhead; but unfortunately some error of calculation was made, and when in sea-going trim, her freeboard—that is, the height of her side above the water-line—was not more than 4 feet, and this, added to a want of stability owing to her peculiar construction, caused her to capsize at sea on the night of the 5th of September, 1870, when Captain Coles and all the officers and crew (500 men), with the exception of eighteen, were drowned. Her powers of offence and defence were very great, and but for the error in her construction,

it is probable she would have been the model of the future sea-going ship-of-war.

Other turret-ships have been built adapted for coast defence, the decks of which are only 3 or 4 feet above the water, which enables them to carry thicker armour plates; the turrets are placed on the deck, which is armour-plated, and is free from any obstruction, thus giving the advantage of a fire all round.

The Cerberus, the Magdala, and Abyssinia, on this principle, are for the defence of colonial harbours.

The Glatton and the Hotspur are very powerfully armed and armoured; they are both intended for sea-going ships: the Glatton has two 25-ton guns in a turret protected by 12-inch and 14-inch armour; her side is 3 feet out of water, but it can be reduced to 2 feet by admitting water into a double bottom. The Hotspur is a ram, that is, she has a projecting bow under water, and will make ramming her chief mode of attack; she carries one 25-ton gun in a turret, and is powerfully armoured. There are four or five somewhat similar ships for the defence of our own coasts.

In addition, there have been constructed twenty-four gunboats of the Comet class, drawing about 6 feet of water, and carrying one 18-ton gun, each with a crew of twenty-

five men; these are very handy craft, and from their light draft of water admirably suited for service on rivers and for harbour protection, offering but a very small mark to the shot of attacking vessels, while their heavy gun is able to render good service, their speed averages about 9 knots an hour, and the cost of each about 7500*l*.

The most powerful war-ship we have afloat is the Devastation, built in Portsmouth dockyard and floated into dock July 12, 1871; she is a double-screw turret-ship, carrying four 35-ton guns in two turrets; she is armour-plated on her sides, her plates being from 10 to 12 inches thick, while the plating on her turrets varies from 12 to 14 inches, so that altogether she carries the enormous weight of 2660 tons of armour plate—in addition to her heavy guns and stores and a supply of coals. She has a crew of 250 men, is 4407 tons burden, and cost 305,000*l*.

The Devastation can scarcely be considered a sea-going ship, but she is admirably adapted for coast and harbour defence.

Had the manufacture of enormous ordnance been stopped with the 35-ton guns, we might have been satisfied with what has been done, but English artillerists were ready to make guns of twice that size, and foreign powers were

known to be building ships to receive such weapons. We could not allow foreign seamen to have more powerful guns than our own afloat, and therefore an 81-ton gun has been ordered, and it is to be hoped will shortly be ready, with these guns the Inflexible is to be armed. This ship is very different to anything we have seen: imagine, if you can, a floating castle 110 feet long, and 75 feet wide, rising 10 feet out of the water, and having above that again two round turrets planted diagonally at its opposite corners; this castle and turrets heavily plated with armour, and each turret having within it two guns of 81 tons each. The whole four guns being capable of being fired at one time, either a-head or a-beam, and in pairs to every point in the compass. Attached to this rectangular armoured castle, but completely submerged, every part being six or seven feet under the water, there is a hull of the ordinary form, with a powerful ram, with twin screws, and a submerged rudder and helm; above this submerged hull there is an unarmoured structure connected both before and abaft with the hull, and with the armoured castle. These superstructures furnish luxuriant accommodation for officers and seamen. The hull is divided into 127 water-tight compartments, and the step in advance in the construction of the

Inflexible has therefore been from 14 inches of armour to 24 inches, from guns of 35 tons to guns of 81 tons, from two guns a-head to four guns a-head, from a height of 10 feet for working to 20 feet, and all this without an increase in cost, and with a reduction of nearly 3 feet draught of water. Perhaps before the Inflexible is ready to receive them, still heavier guns may be ready for her.

The introduction of steam as a propelling power in the navy has made us in a great measure lose sight of

The Old-fashioned Sailor.

He is very rare in the present day, and, as I fancy, only to be met with occasionally at Portsmouth. The progress of education, the building of ironclads, the advance of competitive examination, and the neglect of Dibdin's songs by the Admiralty, have well nigh swept him out of existence. Still you may occasionally see him. He is the same rollicking, hearty, reckless being, as of yore, and if he has any money to spend you may be sure he will spend it as long as he is on shore. He, however, has some idea with regard to investments, and has heard something about "putting by for a rainy day." I don't think he takes his

grog quite so strong or quite so frequently as in the days when they wore pig-tails, but he is quite as brave and as open-handed as he was in those days. If he does not fry gold watches in a frying-pan and eat bank notes between bread-and-butter, it is not from any meanness or churlishness, but because he knows he can put his watches and his bank notes to better use. He can still spin as good a yarn and sing as jovial a song as ever, but he feels a good deal of heart has been taken out of him by the hideous ironclads and turret ships of the present day. I am inclined to think the real old-fashioned sailor now can only be met with in the person of some brown, kippered, rugose old salt, who left the service long before ironclads were introduced. Before Greenwich Hospital was disestablished you might have seen a score of such grand old fellows amongst the pensioners; but the screw steamers afford still scope for seamanship, as they carry as much sail as an ordinary sailing ship, and I feel sure our tars of the present day will keep the first place not only with respect to seamanship, but with greater prudence will ever show as much skill and bravery as has always been associated with the idea of true British sailors.

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